Vol. XIII. JUNE 1, 1885. No. 11.

TERMS: $1.00 PER ANNUM, IN ADVANCE; 2 Copies for $1.90; 3 for $2.75; 5 for $4.00; 10 or more, 75 cts. each. Single Number, 10 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.

PUBLISHED SEMI-MONTHLY BY

A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18c per year extra. To all countries NOT of the U. P. U., 42c per year extra.

NOTES FROM THE BANNER APIARY.

NO. 66.

CRITICISMS ON GLEANINGS.

EDITOR GLEANINGS:—We fear that in our criticisms on GLEANINGS we pained you and many of your readers by including religion in the list of subjects that we would have eliminated from GLEANINGS. For fear of doing this we hesitated, when writing our last article, about adding religion to the list, but did not see how we could consistently avoid it. You, of course, feel it your duty to follow the course that you have adopted, and we ought to, and I think we do, have charity enough not to *blame* you, even though the course does not meet with our approval. We sometimes wonder if we are not *too* outspoken. If we have any criticisms to make, we make them openly, "right to a man's face," then he can explain, or defend himself. This may not be the best way to make or to keep friends, but it is "our way." We have very generously been allowed to point out what we consider the faults of GLEANINGS; we now hope to be allowed the pleasure of enumerating its excellences. First, it is always *out on time*. When we are expecting a welcome guest, how much greater the pleasure if he comes when we expect him; and how annoying the disappointment if he does not come *on time!* Second, it always comes *well dressed*. It has a good cover, is well printed upon good paper, and almost entirely free from typographical errors. This may not be so important as that it should contain valuable *ideas*, but it adds greatly to the pleasure of reading it. Perhaps we are oversensitive in regard to typographical neatness; but a publication that is lacking in this respect arouses in us a feeling that is akin to disgust. Third, it is lively, spicy, wide-awake, and interesting. Even if it does "mix things up," it is seldom *dull*. Some have condemned that "everlasting foot-note" that usually follows each article. There may be objections to it, but, in one respect at least, it is, in *our* opinion, a good thing. If its editor is "up with the times," beginners are less likely to be misled by the errors, fallacies, or wrong conclusions of correspondents.

ARGUMENTS VS. PERSONALITIES.

We were much pleased with your remarks upon page 308 in regard to discourteous criticisms. *Arguments* never hurt; invective and offensive personalities often do. Let us turn over a new leaf, and all join hands in henceforth keeping our apicultural literature free from offensive personalities.

RAISING AS MUCH COMB AS EXTRACTED HONEY.

In reply to Mr. Smith's query upon this subject, we have nothing to add to what we have already written, unless it be to fill the sections with fdn. and give no more room in the brood-nest than an ordinary queen *will* keep full of brood.

NAMES AND ADDRESS UPON SHIPPING-CRATES.

We have been informed that most commission merchants *are* opposed to producers putting their names or addresses upon their packages. Let some of the commission brethren "speak."

8—W. Z. HUTCHINSON, 68—40.

Rogersville, ✧ Genesee Co., Mich.

In regard to the foot-notes: Whenever I think an article is in any way misleading, I expect to correct the tendency to the best of my ability, and I am very well aware that some writers have felt grievously hurt be-

cause of my foot-notes; but for all that, the greatest good to the greatest number, in my opinion, demanded them. Many times a brother gets carried away with some special idea. For the time being his head is not quite "level," as it were. Well, if allowed to go out that way, without any thing to modify it, or to tone it down a little, it might be misleading. It is very true, that my judgment may be in error, for it would be strange if it were not, occasionally. In that case it is a misfortune, I admit; but to avoid such misfortunes, I have at my elbow about all the bee-journals published in the world, and all the treatises on bees, of any account, in print. Besides this I have the benefit of the communications that have been sent to me for 15 or 20 years past, in regard to bee culture; and I am self-conceited enough to think that my memory is seldom at fault. My daily prayer is, that God may give me wisdom, and may keep my heart from egotism or prejudice. One or two of the friends have complained because I did not add some comment of some sort at the close of their communications; and if I should drop my time-honored custom, friend H., some of the brethren would not know I was *alive* any more.

SHIPPING BEES.

Putting ½ lb. of Bees and a Queen on Combs where the Bees Died from Honey-dew.

MRS. CHADDOCK TELLS HOW IT WORKS.

THE two half-pound packages and the two queens came through all right. They were put up in *very* good shape; only 25 dead bees in one package, and 80 in the other. They came to the express office on the night of the 20th, and I brought them home yesterday, and turned them loose on some combs of honey-dew and bee-bread where the bees died last winter. By the way, it seems to me that these are about the tonguiest bees that I ever saw; or was it because they were thirsty, that they ran their tongues out so far and so persistently?

We were coming home — Minnie and her papa on the front seat, the bees and myself on the back, when I happened to look over on the end of the packages, and I saw what I thought were hundreds of legs sticking through the screen; then I thought it could not be legs, but wings, and I called Minnie to look, and she said it was tongues. And it was; hundreds of long slim tongues running out, and waving round; and they did this only on the side where the wind struck them. It was too funny to see them running their tongues out to cool them, like a thirsty dog.

This morning Bro. Phillips came up to look at them. He wants to send for some, but is afraid of getting cheated, and I went out to the hives. "Why," said he, "these bees look weak; they can hardly fly." I looked, and, behold, there they were crawling out from the entrance to the edge of the alighting-board, and then rolling off, their bodies swelled up tight as a drum, and stretched out to their longest capacity. I knew in a second what ailed them, but I said, "See what nice large bees they are," and I took off the cover and showed him the cluster; he said they were *very* large indeed. He went home; and as soon as he was gone I went and looked carefully around the entrance, and there were dozens of those *nice large bees* lying on their backs, kicking their heels up in the air, and I snatched that honey-dew out of the hive, and gave them some fresh honey taken from another hive, and since dinner I have looked at them again, and the swelling has gone down, and they are perfectly sober. The honey-dew was dripping from every pore when I put them in. I tasted it, and it was a little sour; but I thought that, as they could fly out all the time, it would not hurt them. I looked closely, and could see no dead bees near the hive, so I suppose they all recovered.

MAHALA B. CHADDOCK.

Vermont, Ill., May 22, 1885.

Thanks for your report, my friend. My opinion is, that a good strong swarm would have managed those combs, dripping with sour honey-dew honey, all right; but they might have turned around and swarmed out, going off "lickety-split," holding their noses. To prevent such a catastrophe as this, I think it will be better to hold fast to the oft-repeated injunction—put such combs, one at a time, in the center of a good strong colony, till you get them all purified and sweetened. — I think it likely the bees were sticking their tongues out because the day was hot, and they were suffering for want of air. Whenever they do this, shade them from the sun and put them in the wind. They will usually draw their tongues back in a short time. Bees after a trip like this are in poor condition to work up sour honey. Much the better way is to put so small a quantity of bees as half a pound on a comb of healthy brood taken from some other hive. A whole pound of bees will do very well without this comb of brood; but with so small a quantity as that mentioned, it is apt to be "nip and tuck" before a reinforcement of young bees begins to hatch out. I do not believe I should want to recommend only half a pound of bees to start a colony in a hive containing empty combs. Even if they do make a live of it, a frame containing a little brood would give them a great lift, just at a critical point.

REPORTS ENCOURAGING.

HONEY FROM THE WILLOWS, AND THE WAY IT COMES, ETC.

I WENT into winter quarters with 38 stands—37 in cellar, one outdoors in double hive. All came out alive; lost two queens this spring after they commenced laying, and had brood. They had dysentery some, not very bad. I put an upper story on with Hill's device, and put muslin cloth over the frames, and covered with clover and timothy and chaff, which I got in our feeding-room. May 10th the bees commenced work on the willow. On the morning of the 12th, before the bees commenced to fly, I had one of my best colonies of hybrids on a scale. In the evening they had gained 6 lbs.; 13th, 10 lbs.; 14th, 4 lbs. Then the willow bloom closed. In 1883 the willow flow was good; 1884, none; 1885, as above described. Now, how much honey do you suppose they gathered?

Conrad Grove, Iowa, May 25, 1885. G. J. KLEIN.

Thank you, friend K. Ten pounds a day from the willow, I should say, is very extraordinary. It seems to me that willows must be very plentiful where you are. We were aware that it yields honey largely, but did not know it came in at the rate you mention. If the colony on the scale was an average one, your apiary must have gathered two or three hundred pounds in a single day.

A GOOD REPORT FROM FRIEND BLOOD.

Our home apiary has wintered, as usual, *without loss*. The colonies have been evened up, and the last week all brought in honey freely from willow and maple. I am glad to see that you have a man in charge of your bees who is a *bee-keeper*. In the past ten years we have lost bees twice. One winter they had a short supply of honey; and as we were away from home, about one-fourth starved. At another time we tried to winter several small colonies which should have been united. These two experiments are all we need. Now, how do we winter?

1. *We are very sure* that every colony is strong in young and vigorous bees.

2. That they have *more* than enough good honey to last them till spring.

3. All upward ventilation is closed, and eight-inch entrance at bottom wide open.

4. All hives are double-walled on sides and bottom. One-fourth inch above frames is a one-inch-thick honey-board which the bees wax down.

I should add, that we do not extract honey, neither do we use the bees in raising queens during the summer. I think we feel as sure of our bees being alive in the spring as we do of our hens. We use the L. and Gallup frames, about an equal number of each. There are more dead bees on bottom-boards of L. hives than of the Gallup. Strong colonies winter well on L. frames; smaller ones on the Gallup. A. H. K. BLOOD.

Quincy, Mass., May 8, 1885.

NEW HONEY IN ALABAMA.

Some of my hives have upper story chock full. I hived a new swarm on Apr. 2d on empty frames; gave them upper story of sections at once. I have taken 80 full sealed sections from it, and have two frames, 8 boxes each, ready to take out now. How is that for work? J. J. DAVIDSON.

Grand Bay, Ala., May 2, 1885.

ONLY 4 LOST OUT OF 88.

I am still out of Blasted Hopes. The 88 swarms that I put in winter quarters came out in fine condition, except that two died, and two have dwindled from loss of queen, leaving 84 hives of bees at this date. JOHN CLINE.

Fayette, Wis., May 15, 1885.

GOOD PROSPECTS.

After my report on page 318, May No., I lost three more colonies of bees by dwindling; two more are pretty weak. The rest are in good condition at present. Some have ten frames with brood, with plenty of bees to gather honey, if any were fit for use. Apple-trees, strawberries, dandelion, and buckeye-trees are yielding honey at present. Buckeye makes fine honey; but honey from the other sources is not good, especially what is gathered from willow, which will be in bloom in a few days. Bees will be in better condition to gather clover honey when it commences, than they were last year; I am in hopes I shall be able to secure a fine crop of honey the coming June and July.

Lima, Ill., May 14, 1885. J. A. THORNTON, 73—69.

THE MAN WHO WINTERS BEES BY THE HUNDREDS OF COLONIES,

AND WHO WINTERS IN SPITE OF THE HONEY-DEW STORES, ETC.

OUR friends will find a picture of the writer of the following on page 437, Aug., 1883. Learning that he had again wintered his bees without loss, I wrote him a letter, asking him for particulars. Below is his reply:

I can do but little more than acknowledge the receipt of your letter of inquiry, and refer to a detailed description of "How I winter my bees," published in GLEANINGS of Oct. 15, 1883, p. 536. I have made no material change in my manner of wintering.

My bees are in a prosperous condition; the outlook for the season is very promising at present. I have three large apiaries to care for and look after, with at present but one assistant. This I am sure will be a sufficient apology for not trying to add one more to the voluminous list of articles on wintering bees.

Yes, I wintered in spite of honey-dew. Not only had I thousands of pounds of it in my winter stores, but I fed up several colonies upon it after taking away every thing and giving them only empty frames or foundation, and these without exception wintered in perfect condition as well as the very best.

Mr. S. F. Newman, of Norwalk, visited two of my bee-houses in March. A few words from him in regard to that visit might not fail to be interesting.

East Townsend, Ohio. H. R. BOARDMAN.

Thanks, friend B.; but we should have been glad of a longer letter. Friend Newman, you see you are called on. Please tell us about that visit. I have just turned to the page mentioned above, and read again the description of the way in which friend B. winters his bees. Several things have impressed me by reading it. The first and most important one is, that this matter of wintering is within our control. Where one man winters his bees successfully year after year, while his neighbors lose fearfully during these same years, it is pretty good evidence that it is the man and the management, rather than disease or even a "happen so."

Another point that impresses me is, that these old hands at the business may each of them winter quite successfully, and still be unlike in their methods of management; that is because each one has learned by experience what he can do and what he can not do; and each one may have a peculiar fashion of his own for accomplishing the same result. Friend Boardman, as you notice, winters indoors, and others get along just as successfully by wintering out of doors. May be the stores consumed in the latter case are, however, an objection in the way of expense. Friend B. also favors artificial heat as a means of ventilating his winter repositories. Another point, his hives

are entirely without bottom-boards during winter, being raised up on two 2x4 scantling. Where this great amount of ventilation is allowed, of course the room must be pretty well above the freezing-point. Friend B. prefers 45°; and if he can not keep it up to 45° without artificial heat, the artificial heat is used.

SOMETHING ON THE OTHER SIDE.

FRIEND HIGGINS' REVIEW OF GLEANINGS.

BRO. ROOT:—Mr. Hutchinson's remarks on the "Contents of Bee-Journals" brings me to my feet. I feel I have a grievance also, as well as well-merited praise to bestow, which will be approved by bee-keepers generally. I find fault with "I think" and "don't you think?" and all such generalizing that betrays both ignorance and inexperience. I find fault with those who say, "I am right, but you are wrong," simply because we don't agree. I find fault with that bee-keeper who gets angry, and wants to use the columns of a decent bee-journal to call another hard names, and abuse him just because he chooses to honestly contradict a statement justified by his own experience; and I never will take a bee-journal nor any other paper that has for one of its special features the privilege of its columns to slander the character of others. I object to this mud-throwing by bee-keepers because their views are not swallowed without objection, right or wrong. I object to a bee-journal being restricted exclusively to bees and nothing else. Bee-keepers are not restricted entirely to keeping bees. Our lives are diversified by various occupations in connection with bee-keeping. One has poultry, another gardening, and perhaps some may have carp culture and silkworm raising also.

The driest thing that we of the South can read about in the bee-journals is the quarreling over the hibernation theory, tree-trunk wintering, the pollen theory, and whether Mr. Heddon or some other man should or should not be sainted for discovering it, if the discoverer can ever be designated. *We* do not care how you winter in the North, so such reading-matter is all paid for and no value received. We don't care any thing about Mr. Heddon's hive, nor any other hive in particular, so long as it has the L. frame and admits of easy manipulation.

For myself, I don't care a cent for what Mr. Hutchinson says about raising comb honey, for I raise only extracted; yet Mr. H.'s articles are of almost priceless value to thousands who do. These things are almost all superfluous to us of the Mississippi Bottom in particular; yet no wail that I know of has gone up from this section, protesting what you ought and ought not to put into your columns. We of the Mississippi Valley have a claim on GLEANINGS, and insist that it ought to be national in its character, and comprehensive in its scope to meet the demands of bee-keepers. We do not want it to be monopolized by any certain class of writers, nor restricted to any certain class of writing, but to be national in character, and comprehensive in its reading-matter. We of the South can not be especially interested in the pollen theory and wintering problem, but we like to know how the world is moving among our bee-friends, and have their experiences in all matters.

Our Homes is objected to by some, and delights others. Your Juvenile Department can't interest an old bachelor very much, but is a source of great joy to the families of many bee-keepers. So, Bro. Root, on behalf of thousands who hail with gladness each issue of GLEANINGS as it is, go on and keep it as it is; and let those who wish, read only the articles on bees, and they will have more than received their money back, and the rest of us will go on and read the rest. After our editor of GLEANINGS has finished his work in this life, and goes up higher to his reward, there will be the general verdict, "Well done; who can fill his place?"

I began with 75 colonies (68 queens), and have now 132, of which 128 are laying. I have sent, so far, 4½ barrels of new honey to Cincinnati. We have the worst weather in thirty years, cold and wet. I am 28 miles from New Orleans. CHAS. M. HIGGINS.

Hahnville, La., May 20, 1885.

HOW TO MAKE A HOME-MADE WATER-PROOF.

WORKING IN THE RAIN, AND NOT GETTING WET.

A FEW days ago a warm drizzling rain set in—just what we had been watching and waiting for. When it commenced, all hands were set at work to put out the plants that had been waiting in the greenhouse for such an opportunity. Pretty soon it began to be almost too wet to work, without danger of getting a cold. One of the men suggested that we should get some pieces of oil cloth, make a hole in the center for the head to go through, and that this covering would protect the shoulders and lungs, with a part of the arms, so that it would be safe to go on with the work. I suggested our enamel cloth as being just the thing. In a twinkling, one of the girls in the sewing-room had made a water-proof cloak. You want a piece two yards long, costing 40 cents. Make a hole in the center, something like a button-hole; hem it all around, and then put on a button, so as to button up close to the chin. Round off the corners so they will not be dangling around in the way, and put on a string so as to draw the loose folds back under the arms. If you are to be out long, roll up your sleeves so they will not feel disagreeable, and you are ready to set out plants, take care of bees, or do whatever you choose.

The boy who was dropping plants thought he ought to have one, so a smaller one was made for him. With his trowsers rolled up, and barefooted, he stayed out through every shower, without any inconvenience.

A great many times when work is pressing we are tempted to stay out and do it, and thereby we sometimes get a cold that throws us out of days or weeks of time, in the most critical part of the season. With such a cloak or roundabout we have saved it all, to say nothing of possibly saving valuable lives. If you do not succeed in making one to your satisfaction, from directions given above, we can send you a sample of one fixed as we have it, for 75 cts.; 10, $6.00; 100, $50.00. If wanted by mail, add 25 cts. extra for postage. Children's size will be 50 cts.; 10, $4.50; 100, $42.50. If wanted by mail, the postage will be 20 cts. extra.

SOME NOTES AND COMMENTS.

FRIEND W. F. CLARKE TALKS ABOUT HIBERNATION, BEE-JOURNALS, AND SOME OTHER THINGS.

THE last two numbers of GLEANINGS have been very suggestive of topics on which to write; and to discuss them fully it would require more time than I have to spare, and more space than I dare venture to ask. But there are two or three matters on which I must beg leave to offer a few words.

CHILLED BEES.

Friend Doolittle has given us an interesting account of some experiments, as to the degree of cold bees will bear, and the length of time they can stand it. But I just wish to say, that chilled bees are not hibernating bees, or bees to which I have applied the term hibernation. A chilled bee, like a shivering human being, is in a condition of discomfort and uneasiness. The state of hibernation, semi-hibernation, quiescence, torpor, semi-torpor, or whatever term may be applied to the well-known condition in which bees remain closely clustered, exercising their functions but little, and eating the *minimum* of food, is a state of comfort, contentment, and rest. A chilled bee is on the road to death; its progress thither may be arrested by timely warmth; but if not so arrested, the result will be fatal. A hibernating, torpid, dormant, or whatever-you-like-to-call-it bee, is in the path of life. The first effect of too much cold on a bee is to rouse it to unusual activity; the second, to induce overeating; the third, to make it give up, get numb, and gradually succumb. Like a human being overcome by extreme cold, a chilled bee becomes motionless and insensible. It may be roused out of the first stages, and restored by warmth; but if let alone, it will infallibly die.

THE JONES FRAME.

On page 264, where a cut is given of this frame, the idea is conveyed that it is the one generally in use among Canadian bee-keepers. This is incorrect. Owing to Mr. Jones's well-earned fame and influence, his frame is extensively used; but many of our best bee-keepers prefer the Langstroth, or a modification of it. Mr. Hull, of Woodstock, perhaps our largest producer of comb honey, uses a frame rather larger every way than the Langstroth, but preserving very nearly its proportions. Most of our hive-makers manufacture the Simplicity hive, and it is in wide demand. I think Messrs. S. Corneil and Allen Pringle use the Quinby frame, or a modification of it. Dr. Thom, I understand, is experimenting with the Jones frame, turned the other way about. A few Canadian bee-keepers use the American and Gallup frames. In fact, we have a great variety of frames in use—the more's the pity. Beginners in bee culture here, as elsewhere, are prolific of ideas in regard to hives, and aspire to be inventors before they have won their spurs as apiarists. I think I am correct in saying that the Jones and Langstroth are the two prevailing styles of frames; those who produce extracted honey preferring the Jones, and those who go into comb honey, using the Langstroth.

PROFESSOR COOK.

Our good friend Cook shows an excellent spirit under what he meekly called the "just flagellation" I gave him about his *ex-cathedra* pronunciamento concerning hibernation; but I am surprised to find him falling into the same errors as unscientific writers, in overlooking the fact that hibernation is a thing of degrees. This fact is recognized by Kirby, the great authority whom he quotes, who says: "Every gradation is to be met with between ordinary sleep, the imperfect or abnormal hibernation of some animals, and the profound hibernation of others, in which all the functions of life are suspended." I have never claimed that the hibernation of the bee is "profound, but only imperfect and abnormal." Assuredly, in the case of the bee, "*all* the functions of life are not suspended," but it can not be denied that *some* of them are when the close, compact winter cluster is formed which we all know to be so desirable. I believe that bees cluster in this way when they have satisfied their appetites for the time being, and unclasp when the demands of hunger make it necessary for them to eat again. I think they feed only at certain intervals, when in a normal wintering condition. How long or how short those intervals are I do not pretend to know; but I fancy they are decided to some extent by the weather, and that bees take the opportunity of eating when a mild spell comes. This is one reason why I prefer outdoor wintering, instead of the uniform temperature maintained in a cellar or bee-house. By the way, notwithstanding his expressed and no doubt sincere desire not to be dogmatic, Professor Cook is, as you say, a little too much inclined to get into the rut of positive assertion. Thus, in quoting Kirby he makes the great naturalist say, "Bees do not hibernate." But on turning up the reference to *Ency. Brit.*, I find that what he really says is, "Hive-bees probably do not hibernate." Prof. Cook no doubt quoted from memory; but it would seem that his recollection, like his utterances, is apt to run into a positive mold. He is right in saying that reporters at conventions, in their study of brevity, are apt to give our expressions "too sharp a twang." But in my "just flagellation" I quoted his own deliberately penned language in the *A. B. J.*, where he said, in reply to a query, "Bees never hibernate." His quotation of Kirby, too, was penned by himself. "*Litera scripta manet*"—"What is written, stands."

THE MIX IN GLEANINGS.

Has not the editor given himself away a little in his reply to friend Hutchinson on page 309? I think so. He says, "GLEANINGS is not devoted *entirely* and exclusively to bees." We all know that. But the title-page on the cover says, "Devoted to bees and honey." That motto around the flying bee is no part of the title of GLEANINGS. It rather indicates the spirit in which the busy little insect makes its flights; and sad experience compels me to say that it has not a feeling of good will to men universally, for it stings me on every favorable and unfavorable opportunity. I think the Scotch motto, "*Nemo me impune lacessit*"—"No man meddles with me with impunity"—would be more applicable. I must say I rather sympathize with friends Smith and Hutchinson in their criticism on the varied contents of GLEANINGS; but if you are bent on making your journal a miscellany, would it not be better to amend the title on the cover in some such way as this: "Devoted to Bees, Honey, etc."?

THE POLLEN THEORY.

Friend Heddon has sung his triumphant pæan in GLEANINGS; but there is one difficulty, at least, to be surmounted before we can all join in the chorus, "See, the conquering hero comes!" It is the "dry

feces." What is that brown and black powder which collects beneath the frames when bees winter well? Following Quinby, I have strongly maintained that it is "dry feces." Mr. Heddon quotes Prof. Cook as positively denying this. Well, then, what is it? If not "dry feces" it must be rejected pollen and other waste matter dropped by the bees when they are feeding. If it is "dry feces," we have proof that bees can safely eat pollen during winter confinement. If it is rejected stuff spit out by the bees while feeding, it shows that, in a right condition, they will not eat pollen to their injury during winter confinement. Either view is fatal to the pollen theory, and we are forced to the conclusion that, after all, safe wintering is a matter of temperature. If that is right, bees can either eat pollen with impunity, and pass it safely, or they will not eat it at all, so that we need give ourselves no trouble to keep pollen out of the hive in winter. Fix them so that they can hibernate, quiesce, "keep asy," as Paddy would say, or whatever you like to call it, and pollen in the hive will do no harm. I may add, that I have sent Mr. Heddon a sample of "dry feces," received from Mr. Corneil, also another taken out of one of my own hives, requesting that he will get Prof. Cook to analyze them with the same care that he has done the wet feces, and I am waiting anxiously for the report. If it does not knock the pollen theory into a cocked hat, "call me a Dutchman." WM. F. CLARKE.

Speedside, Ont., May 7, 1885.

Friend Clarke, I thank you for your kind criticism, and I for one feel guilty; but what *my* conscience accuses me of is this: In letting a good deal have place in GLEANINGS that not only has little or no reference to bees, but matter that occupies space that is of no particular *benefit* to any one. May God give me grace to do better, and to set a better example; and to commence at once I will cut this short right here.

HOW TO MAKE A HONEY-TANK.

A TANK ALL OF WOOD TO HOLD OVER 1000 LBS., AND NOT TO COST OVER $7.00.

ON page 310 I see that Mr. Ross, of Texas, wants to know how to make a honey-tank. I have used one made of wood for two years, and am well pleased with it. It is about 6 ft. long, 2 ft. wide, and 18 in. deep, with a V-shaped bottom, and holds 1000 or 1200 lbs. of honey. It is made of 1-inch and 1¼-inch pine lumber. The end-boards are grooved into the bottom and sides so that the latter extend beyond the former about 3 in. The other joints (i. e., where the boards are spliced) are grooved and tongued together, and all the joints are cemented together with white lead and canvas. It is put together with screws—not nails. It is painted on the outside, and coated on the inside with paraffine, which is, I think, much cheaper than tin, and just as good, so far as I see. Six small iron rods go across the tank, to prevent it from spreading when filled with honey. I place the extractor and uncapping-box on the tank, have a hole about a foot square in the cover, in which is placed a piece of cheese-cloth for a strainer. The honey from the extractor and uncapping-box flows through this strainer into the tank, and is drawn off at the bottom by means of a honey-gate placed in one end, whenever a customer calls for it. The tank is mounted on legs, so that the honey-gate is about 18 in. from the floor of the honey-house. Of course, I have a stool to stand on while extracting. My tank is not stationary. I had a carpenter make it to order. It cost me something over $7.00.

Bangor, Iowa, May 6, 1885. M. A. JACKSON.

Thanks, friend J. No doubt the above arrangement will answer very well. There is one reason, however, why I should not like a wooden tank coated with paraffine, as well as one lined with tin. Any utensil in which honey is placed is apt to get a sort of strong odor in time, and nothing removes this so effectually as boiling water. Tin can be cleansed with boiling water without trouble; but boiling water would dissolve your paraffine, and make mischief. If you have had it in use some time, however, and have not noticed any slight taint given to the honey, after it has stood in it for some time, perhaps my fears may be groundless.

A BEE OR A BUG—WHICH IS IT?

PROF. COOK TELLS US SOMETHING ABOUT AN INSECT THAT OFTEN FREQUENTS OUR BEE-HIVES.

I SEND you by this mail a specimen of a bug or bee, and I should say both; but I never heard of a bug-bee. I got hold of one of your A B C books, and bought 11 swarms last fall. I have 5 swarms now. Do you think I read my A B C's well? The insects I send I found one in one of the hives, and the others on the backs of worker-bees. They are very active, and jump on the bee's back, and fasten their sharp pincers in the bee's neck, and the bee can not fly with him, but runs every way to get him off; but he sticks in spite of all. I did not wait to see how soon he would kill the bee, but took them off. I never heard or saw any thing like it before. It may be because I never kept bees before. They have no sting, but the slickest pair of pincer jaws I ever saw. With the bug-bees, I inclose a few dead young bees. The old bees drag them out and they appear to have the St. Anthony's dance, and are deformed. Do you think it is by being chilled, or is it some insect at work at them? The bug-bees eat sweet like a bee. What are the specimens, and cause of the deformed young bees, and what gives them the St. Anthony's dance?

Wakeman, Ohio, Apr. 20, 1885. R. DERBY, JR.

In submitting the above letter to Prof. Cook I suggested that perhaps these little bees were the same that bore in the pithy stalks of the thistle and mullein.

PROF. COOK'S ANSWER.

The little black slim bees are species of *Andrena*. They have a tremendous sugar-tooth, like almost all bees, and, like some higher animals, prefer to steal their living rather than to procure it by honest toil. From their small size, quick motions, and hard crust, which latter serves them as a natural shield, they are able to brave the anger of the hive-bees. To see these little fierce bees pounce upon our large honey-bees, reminds us at once of our sparrows and blackbirds as they worry our large hawks. These little bees, like our honey-bees, are hardly robbers from choice; for as soon as the flowers come they mend their ways and gather their own stores.

You are not correct in supposing that these bees nest in hollow stalks, though very near relatives do.

These dig tunnels in the earth, where they deposit stores and lay their eggs, and where their young are reared. Sometimes their tunnels are sunk some inches in our hard walks and roads.

These bees annoy the honey-bees some in early spring, but I do not think need cause any alarm.

A. J. COOK.

Agricultural College, Mich., Apr. 24, 1885.

As friend Cook does not mention the bees that seem to have the St. Vitus dance, I would suggest that it is the same malady described in the A B C book, at the close of the article on the diseases of bees. Of course, the little bee described has nothing to do with the diseased bees.

FIVE FRAMES IN A HIVE.

WIDE FRAMES NOT YET THINGS OF THE PAST, ACCORDING TO FRIEND DOOLITTLE.

ON page 247 of GLEANINGS for April 1st, Mr. E. W. James asks what I do with the remainder of the space in the hive where I use but five or six frames, when a new swarm is put into a hive. In all of my hives I use but 9 Gallup frames, although the standard Gallup hive is made to hold 12 frames. Some years ago I ascertained that queens as they would average would not give me brood amounting to more than 8 frames full, so I gave 9 frames, as the amount of one frame was needed for the pollen and a little honey, before the sections were put on. To bring the standard hive down to 9 frames, I used 3 division-boards, making each one take the place of a frame; and when new hives were made they were made for only 9 frames, so that at present writing I have few of the standard hives on hand. In this way I was enabled to secure a much larger yield of comb honey than I ever could with the 12-frame hive, as, when such was used, I always found the 3 outside frames filled with honey at the beginning of the honey harvest, which gave a tendency toward crowding the brood-nest with honey, rather than an immediate entering of the sections. After a while I ascertained, by many careful examinations, that the queen of a prime swarm would, on an average, keep only from five to six frames filled with brood for the first six weeks after being hived, after which the brood-nest was gradually reduced to less size until there was no brood on the approach of winter. After having ascertained this I gave each new swarm but five or six frames, and secured results from new swarms never obtained before; but instead of using division-boards, as friend Root supposes, I use wide frames of sections on each side of the brood; for by so doing I get the surplus honey (which I used to get in the frames) placed in sections, which is just where I want it. Those who have decided wide frames are not the things to use will never fully realize the possibilities of bee-keeping, in my opinion.

The great secret of a large yield of comb honey is getting the sections as near the brood, both at sides and top, as possible, and I know of no arrangement that meets these requirements so well as wide frames. After sending off and getting nearly all the case arrangements mentioned in our bee-papers, so as to make a careful comparison of them with wide frames, to-day finds me more in favor of wide frames than ever, and I do not believe, taking the year through, that the case system has any advantage over the other, regarding the saving of labor, which is the main plea used in their favor. Before throwing away wide frames, I advise all to read the short article from F. J. Farr, found on page 313.

WINTERING.

On page 246 friend Root thinks that bees in chaff hives will not die if fed heavily on sugar syrup, and desires the particulars if any have so lost. I have given the particulars in GLEANINGS and *A. B. J.* regarding one so lost, so I will not go over the grounds again, but will simply say that, upon now going over my bees after a loss of one-fourth, with another fourth very weak, I can see no difference in favor of sugar syrup over honey. The difference in favor of chaff hives is quite marked, yet they are not wholly exempt from loss, by any means. On page 309 I find that it is thought that the "Linswik" sisters' success is owing to the extra care they gave their bees. Let us see: A friend calling at my house several years ago remarked to myself and Mr. Betsinger, who chanced to be here, that there was no need of losing bees if the proper care was given them when preparing for winter, for he had never lost any, and did not believe he ever should. B. remarked that his turn would come yet, and, sure enough, to-day finds him with 20 weak colonies left out of 70 last fall, despite the extra care he says he gave them. Another friend who does not claim to use any great care, and who brimstoned some 20 colonies last fall, because he had more than he wished, came out of this winter with every one alive, he being the only one in this section who has not lost heavily; so I say that we—I don't know any thing about what makes our bees die. Last fall I packed with extra care two colonies sitting side by side, each having the same number of combs, of the same age, queens of the same age, bees and stores equal, and all as near alike as two peas, yet one died before March 20th, while the other is the best colony I have in the yard to-day. Now, friend Root, when you or any one else will tell me why the one died and the other lived, then I will tell you how to winter bees; and until some one can do this, I shall be excusable for saying I don't know.

G. M. DOOLITTLE.

Borodino, ○ N. Y., May, 1885.

Just one word in regard to what you say about sugar syrup compared with honey, friend D. It was but a few days ago that I decided, while running over my letters for copy, that there was no further need of publishing letters showing the great advantage of winter stores of *sugar syrup* over winter stores of honey. Our bee-journals have given proof again and again, year after year, until I should say the matter is settled. It is true, there are those who write that they have not noticed any thing in favor of sugar syrup over good honey; but these letters do not account for very much while the fact remains that no one of late years claims that honey is *better* than sugar stores. Once more: The large stores of honey-dew have, without question, been the death of thousands of colonies. Had these bees been fed on sugar syrup instead of honey-dew, they would have been saved. Almost all the bee-men in Medina County have lost terribly. Their bees had such stores as they gathered; ours, such as we fed them. They lost fearfully, and their bees are dying of spring dwindling, even up to this present time, dur-

ing the latter part of May. There has been nothing like spring dwindling in our apiary. We fed barrels and barrels of sugar; they didn't.

BEES IN CUBA.

HONEY FROM THE BANANA, ETC.

IN GLEANINGS of Dec. 1 I find an inquiry as to why bee-keeping in the tropics is not a success while bananas are grown largely. In this locality, and in a radius of two or three miles, there are many thousands of banana and palm trees, each of which blossoms a "racemos," or cluster of blossoms, which average 3½ ft. in length, with a diameter of 2 ft. across the shoulder—a solid mass of creamy-white blossoms, upon which the bees, when other stores are scarce, actually swarm. They are never neglected, even when the campanea is in bloom. There is also a tree here called "digame," which is a mass of white blossoms for two or three weeks, at this time of the year, and I should say a very ordinary bee-keeper could make a success, in this province at least. The others I know nothing of but from hearsay, which reports honey everywhere and all the time.

We are situated about six miles from the town of Principe, which is connected by a railroad of about 45 miles with Nuevitas, a port on the north coast, and one of the finest harbors in the island. Vessels sail from there to New York, and make the trip in from 8 to 14 days. A good steamer could do it in 4.

The climate is most lovely, the thermometer averaging about 80° in the day to 70° at night. I never saw it below 70° the coolest night I have experienced; but that was in June, when one would suppose it to be the warmest of the year.

The people are the most hospitable I ever met or heard of. When you are introduced to a Cuban at his home he says, "My house is yours; do what you please with it;" and I verily believe, that if you could pick it up and carry it off on your back, the Cuban would climb a tree and rest satisfied that he had carried out his hospitality in the sense it is understood by his people. All of the women are beautiful, and as amiable as lovely; in fact, I am yet to see a woman or child with any other disposition than that of a smiling and pleasant one.

The soil is the richest on earth; and if the Spanish government carries out the spirit of the letter of their treaty with the United States, this island will be as near a paradise for the producer as can be found on this earth. By irrigation, plants can grow the year round. As it is, two corn crops are grown on the same field in one season, extending from April to December; but with the agricultural machinery of the United States, three could be obtained. The cultivation of the land is done in the most primitive manner. The plow that Moses might have used is still in use here. There is not a four-wheeled wagon in the province. The carts, and all labor of that description, is done by oxen, and I shouldn't be surprised if these oxen were cotemporaries of Moses also. Every thing is done in a very old way; but when an American gets down here they think they have a circus right on hand. The comments upon their ability to carry out any thing except in their way is very amusing, if not flattering. But they find the American is "not the kind of cat" to back out of any thing he undertakes. When we commenced to set up our hives, and talk bees, honey-slinging, floating the farm in it, and sailing a canoe in it from here to town, they claimed we could not do any thing with our new and improved methods. Now we are showing them about it, and the astonishment of the visitors that come here to view the "circus" makes us smile. Neither Heddon nor Hutchinson would ever get the stomach-ache if some poor fellow started his toes on the edge of his field, as I think there is no limit to the amount of bees that can be kept by one party. One elderly gentleman visited us, who, when younger, kept 1000 of the native hives, with a banana plantation of 40,000. He stated there was money in it. He now owns 66,000 acres in the island, worth $800,000.

WM. H. WOOD, C. E.

Puerto Principe, Cuba, Dec. 26, 1884.

HONEY-DEW, ONCE MORE.

ARE WE TO HAVE A REPETITION OF THE TROUBLES OF LAST SEASON?

EDITOR GLEANINGS:—Would it not be well to call the attention of bee-keepers to the matter of the bark-lice (*Lecanium*), and the sweet excretion from them? These lice are very common again this season. They are now to be observed as small but rapidly growing scales on the under side of the branches of the trees. We find them here very abundant on white-ash and bitternut, and quite so on basswood, sassafras, and maple. They are now sucking the juices from the tree in such quantities as to greatly injure them. At the same time they excrete the sweet substance which lures the bees. Last week I saw the bees thick about the lice-infested branches. Later, the blossoms of the maples and willows have attracted the bees to more wholesome nectar. It behooves us to keep a close watch, that we may know if the bees are storing or have stored this unsavory sweet, that we may extract it in case it has been gathered to any extent, that it may not be mixed with our white-clover honey. Such precaution would have saved hundreds of dollars to the bee-keepers of the country last year. This nectar secretion, if rightly managed, may and will prove only a benefit. It will stimulate the bees to greater activity, and may be used to feed in early spring, or any time in the summer, if care be taken that it is not stored with honey to be marketed, or with the winter stores.

Mr. Editor, have you never wondered why this secretion was poured forth by these scale lice? I think I have the solution. These scale lice are degraded insects, and so mimic the bark of trees in color, and are made so inconspicuous by their flat form, that they are protected largely from birds and other insects. Thus they gain by their lowly plain habit and mode of life. There is no physical energy required to move about, and so all is used to increase reproduction, and hence the immense prolificness of these bark-lice. But real virtue, even when garbed in plainest dress, can not always remain hidden. That these lice have virtue, is manifested in a phenomenon which has pleased us very greatly the last few days. Some chipping sparrows and Baltimore orioles have been licking up these lice by the thousands. The beautiful golden orioles will take a limb and pass its whole length, and scarce leave a louse. It is very interesting to see them taking their several meals from a favorite

tree right against our house. Now, how poorly these lice are equipped for defense against such a raid as this! Yet they have an armor of no mean value. It is this very habit of nectar secretion. The nectar attracts the bees and wasps, and the bees and wasps frighten off the birds and other insectivorous animals, just as Prof. Tuleare has suggested that the cotton secretes sweet from extra floral glands to attract wasps and ants, which keep off the ruinous caterpillars.

How wonderful the laws that have led to the development of such wonderful methods for safety and preservation! How much more wonderful, and how worthy of reverence, the great Author of these laws! A. J. COOK.

Agricultural College, Mich., May 16, 1885.

Friend Cook, I am very glad indeed to hear you say that even this matter of honey-dew may, if rightly managed, prove a blessing. It has been a blessing to us in our business of supplying bees by the pound, but I had almost feared to say it, because of being thought selfish. It seems to me it is like all these other things that are unfolding themselves to us day by day as we make progress in studying the works of the all-wise Creator. The very thing that seems a calamity and misfortune may, by the light of science and scientific investigation, be made to minister to our wants. We sell bees by the pound, and start thousands of friends, scattered far and wide, in the industry, and at the same time give them vigorous young bees from late importations from Italy. Now we crowd our work to such an extent that honey-dew and almost every thing else that the bees gather (including the pollen that has been so much talked about recently) is turned into brood and young bees, so that when winter time comes they have comparatively little pollen or honey-dew either. Now, both these substances that ordinarily are but a hindrance in wintering, or even to sell on the market, are turned into bees, and are, therefore, a blessing to us. When we get ready to fix for winter, we have only to fill up with barrels of sugar. Those who raise honey for the market should either choose a locality where honey-dew is not prevalent, or do as you say—be very careful not to mix it in with the clover and linden honey so as to injure the sale of this product.

PENNYROYAL AS A HONEY-PLANT.

REPORT FROM NEW ZEALAND.

YOU ask in GLEANINGS, "Does anybody know any thing about pennyroyal as a honey-plant?" Yes, sir; there are acres and acres of it here. In fact, there is not a grass paddock within 20 miles of this, free from it. Some fields you would fancy were nothing else now. When it is in bloom, it is a great plague to farmers, as it is very difficult to eradicate; and once it gets into a district, it spreads with great rapidity. But the honey is the finest, to my taste, of any that I know of—clearer than the best clover honey, and has a beautiful faint mint flavor. It commences to bloom here the middle of January, just as white clover is beginning to fail, and lasts till about the end of February. I don't suppose that it is a large yielder of honey, as I have got it in but very small quantities each year. I believe it would be a great wrong to introduce the plant to your neighborhood, even if it would yield honey by the bucketful.

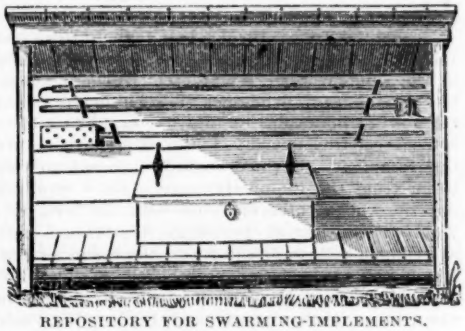
R. MCPHERSON.

Otau, Wairou, South Auckland, N. Z., Jan. 29, 1885.

SWARMING AND SWARMING-BOXES.

ONE WAY IN WHICH PEOPLE FORM DIFFERENT OPINIONS.

IN 1878, friend N. N. Shepard, of Cochranton, Pa., wrote us a letter, describing his swarming-box, and we published it with the engraving shown below. From the explanatory letter we got, it entered our heads that the pole was put in the closed end of the swarming-box, and accordingly had our picture made. Afterward friend Shepard said it was not right, and would not do at all, and so we had a picture made different, as at present shown in the A B C book.



REPOSITORY FOR SWARMING-IMPLEMENTS.

Well, our neighbor Chas. R. Bingham, of Edinboro, O., made us a call to-day, and remarked that he wanted to say that the old style of swarming-box, with a hole in the end, was one of the best institutions ever gotten up for a bee-keeper; in fact, he declares that the implement is sometimes worth half a year's subscription to GLEANINGS, in taking down a single swarm. He just holds the swarming-box right under the cluster, and shakes a few bees into it. All the rest then leave the limb and go into the box, attracted by the humming of their companions. This humming is caused by the loud rejoicing over what they consider a hive, or may be a hollow tree. Now the point is this: Friend B. understood the letter as I did, and made his swarming-box as I had pictured it, got used to having it that way, and now would not have it any other way. He has learned by many years of practice just how to handle it, until the machine is almost a part of himself, as it were. He has got it at his fingers' ends, as we sometimes express it. Well, my opinion is, that, had he started with it the other way, and taken a notion to it, it would have answered the purpose just as well. One farmer gets accustomed to a plow; he knows just what to do with it to obtain the result he desires. After he has had it for years, and if he is one of those people who get into a way of doing a thing, may be he will get

along with a very inferior implement in a way which he could not possibly do with a tool greatly superior, and with which he was unacquainted. And this is what accounts for so many different notions in regard not only to implements for handling bees, but tools for doing almost every thing that needs to be done.

The engraving above shows a little shed arranged to contain all implements for taking down swarms. Where we raise comb honey, as almost all of the friends do nowadays, it seems to to me such an arrangement will abundantly pay expense.

THE SIMPLICITY HIVE.

A Testimonial in Regard to Its Advantages.

A NEW AND ALMOST UNEXPLORED FIELD FOR INVENTION.

AS I am one of your A B C students I thought I would give you a remarkable instance of the forethought and reflective powers of my bees. I had a Simplicity, which has presented the appearance of being about to swarm for a week or two. About 10 or 15 steps distant, and in the same row, stood a hive full of comb, but no bees except a few dead ones, they having perished for want of honey during the winter, having been robbed too late last year. Four or five days before this Simplicity swarmed, some bees (now supposed to be from the Simplicity) were noticed cleaning out the vacant hive, carrying out dead bees, etc., from it. Day before yesterday it swarmed, and, after much bell-ringing to settle them, the swarm, which was a very large one, settled on the front side of the vacant hive and gradually went right in upon the alighting-board; and before the whole swarm had gone in, numerous workers were seen carrying in heavy loads of pollen.

They are in there all right, and seem to be well pleased, and are working like Turks. Could we not teach this practice to our bees by preparing hives with frames wired and covered with foundation comb, and set from three to five feet high near an apple-tree? W. J. FARRISS.

Sparta, White Co., Tenn., May 16, 1885.

Friend F., it would seem from the above little incident that your strong hive sent a committee of investigation to report in regard to the inducements offered by that empty Simplicity hive. This body of bees, composed, of course, of the oldest and wisest heads among forty or fifty thousand, went home and delivered a report something as follows. I suppose the chairman must have stood up, and, after clearing his throat and wiping his face, made his speech: "I take pleasure, friends, in saying that, after having duly investigated matters, it is, in the humble opinion of your committee, the best thing we can do to occupy said unoccupied hive. The hive is a plain simple box—almost as simple, in fact, as the hollow trees used by our forefathers. One especial quality that recommends it to your committee is, that it has no patent moth-traps, ventilators, or any thing of the sort. We find, by careful examination, that we can get in and out easily, and that the man who made the hive has arranged it so that we can gain access to every part of the hive; and if a miller should undertake to deposit her eggs anywhere about it, we could, a lot of us, take after her and 'scoot her out on the run.' It is the sense of this committee that we move into that hive as quickly as possible, lest some other enterprising colony discover the unusual advantages it affords. Hurrah for the new home!" Joking aside, friend F., reports like yours have been several times given; and the man who will help us to so manage our bees that they will, at swarming time, go right into hives prepared for them, without any supervision on the part of the owner, will confer a lasting favor on the bee-keepers of the world. I have commented on this matter several times before during the years past. There is one happy thought connected with it, which I have hinted at in the foregoing; namely, the possibility of making a hive so much in accord with the notions or instinct of the bees that they would select it in preference to any inducements that a hollow tree might afford; or, in other words, if a colony of bees were to choose, what kind of a hive would they select of their own free choice? or was it the empty combs that took their fancy? or have they, in fact, any notions in the way of preference as to how their hive and its surroundings shall be arranged?

WINTERING.

Have we or have we Not made Progress in regard to this Matter?

ALSO SOMETHING ABOUT THE POTATO-BOOK.

I DO not know that I should have ordered a copy of your A B C of Potato Culture, had not Brother W. Z. Hutchinson kindly mailed me his to read, as he states on page 335. I certainly can not say less of the work than to indorse all that Bro. H. and Prof. Cook say in praise of this praiseworthy book; though, like Bro. H., I never expect to raise a potato, I knew I ought to have a copy of my own. I felt sure that such reading would benefit me many times 38 cents' worth, let me follow what occupation I might.

I think Bro. Doolittle is decidedly mistaken in thinking that we have gained nothing in our experiments and controversies regarding the pollen theory and wintering problem. He evidently does not understand it as I do. He closes by saying, "What do we know on these points, any way?" I will answer him, by saying that I have always been among the more extensive losers of bees during winter; that I have never at any time before believed that I had the problem settled. I fully believe it now; and if, in the future, I turn my own tables and become one of those who "never lose bees in winter," will Brother D. not willingly admit my claims? Were it not, as you mention, perhaps best to drop this subject just at present, I could explain wherein lies the difference between my failure of the past and proposed successes of the future. All this, however, can be discussed in due time.

JAMES HEDDON.

Dowagiac, Mich., May 18, 1885.

That is the kind of talk, friend Heddon. Just keep cool, and prove your position by wintering bees all right next winter, and the

winter after that, and so on. Such a result will be more convincing than pages of theorizing.

ANOTHER REPORT FROM FRIEND OSBURN.

BEE-KEEPING IN THE TROPICS.

FRIEND ROOT:—In drawing the line of comparison as viewed from the standpoint of the apiarist, do not let us place it too far north or too far south. Do not let us paint it with too much sunshine on one side, and nothing but gloom and disaster on the other. The North to-day stands pre-eminent before the world as a honey-producing country. Its white clover and basswood enjoy positions as honey-producing plants that time will not efface, or the fame of the white sage or bellflower detract one single point from their usefulness. The proud position that apiculture in the United States holds before the world will never be superseded by any other country or set of people, for it is backed up by too much of the spirit of enterprise and never-fail disposition, that has made the U. S. what they are.

In view of these facts (which are stern facts) would it be wise to say that, because the North has cold winters, that prove disastrous to the business in some localities, that the business will be abandoned, and the enterprise which has assumed such grand proportions, declared a failure? We think not; no, the American people *never* fail; rebuffs and setbacks may come; "but, as sure as the sun rises to-morrow morning," they will rebuild the structure on a firmer foundation than before, and "try, try again."

Let us leave the North now, and rest (fully assured that she can take care of herself), and come down to Cuba, and see what the prospects are for success in modern apiculture south of the frost-line. Although we have been here now only 18 months, we feel justified in saying that the country has many resources and advantages, for the honey-producer, that no country north of this that we have ever seen does possess. First among them is the large amount of honey that there is here; and in proof of this let me say, that at this writing we have 555 colonies, all in one apiary (shall make them 600), and all doing well, Second, there is no winter here. But you will ask me, what about our dearth of honey, and of our disaster last year; i. e., the loss of so many colonies? To which I will say, that our great loss was only the result of too much increase, and ignorance, on our part, of what the honey resources of the country were at that time of the year. If you will remember, last year we increased from 34 to 520. Any apiarist will readily understand that, after such an increase, that pretty much all the colonies were weak when the flow from the flowers stopped. But now the situation is very different. Instead of all weak ones there are 400 colonies with their top stories on, and full from top to bottom of bees and honey, and we have two months yet to go before the dearth comes, for the other 200 to breed and store moderately along, until the flow ceases altogether. But suppose those that have not honey now to carry them through the dearth do not get it, we have a large surplus in the 400 to fall back on, and there will be no need of letting any of the weak ones starve.

We are making preparations not so very much unlike what we would for a northern winter, only this difference: Our colonies can fly every day, and they will be at all times so that we can examine them and know their condition.

There is one source of trouble here in the summer that the Northern apiarist is bothered with but little, and that is the moth. As soon as the colony becomes weak, the miller will go in and deposit her eggs in spite of the Italian or Holy-Land bee. That is, when there is a hive full of combs, and only bees enough to cover three or four, the miller will go in, in spite of them. But after all the disadvantages are summed up, when you take into consideration that there are 8 or 9 months out of the 12 to raise bees and gather honey, it is not so bad a place for the apiarist after all. And then, too, colonies will build up faster here than in the North, for the weather is warmer. It does not take as many bees to keep the brood warm; the queen can lay more eggs, and there are more bees to gather honey. The comfort of the apiarist, while handling bees under these sheets, is ahead of any situation out of doors, for there is no sun nor rain nor dew to annoy him. With hat off, a low pair of shoes (no stockings) a pair of overalls and shirt, with shirt-sleeves rolled up to the elbow, we work with a large degree of comfort.

Now I will tell you about the fleas, for "there is no rose without its thorn." During the dry months they are a pest. While a fellow is flying around he minds but little about them; but when he comes to sit down, then they bite just a little for fun; but they do not keep us from sleeping. We sleep soundly, and the sleep is refreshing. However tired we may be when we go to bed, we get up in the morning feeling as though we could dance a hornpipe. I have been in the mountain districts of California and Arizona, that were renowned for their health-giving elements; but never have I found a spot where sleep would so perfectly restore the wasted energies of the system, as right here in this portion of Cuba. Is not the reason clear? A narrow strip of land set out in the ocean is fanned by a continual breeze that carries in its very breath health and long life. A. W. OSBURN.

San Miguel de Jaruco, Cuba, W. I., May 7, 1885.

A NEW DEPARTMENT ASKED FOR IN GLEANINGS.

FRIEND MALLOY GIVES HIMSELF A SEVERE LASHING.

MY last performance in the bee line has almost discouraged me. I will relate the circumstances; and if you never have had a department for *fools*, you may prepare one for my benefit. Two weeks ago my bees numbered 16 hives; to-day the muster is 14, all told—eleven Simplicities and three box hives. Two weeks ago the weather was warm, and the bees were out in force. I threatened every day for a week to examine the hives and see what condition they were in; but being very busy it was put off till Friday evening, when I concluded to look into them. The first hive looked at was in the last stages of starvation—all dead but about a teacupful. I made some syrup as quickly as possible, and sprinkled them all over. I don't think I ever saw any thing that affected me more than their weak efforts to use their tongues and fail in the effort,

and fall from the combs motionless into the mass of dead bees on the bottom of the hive. Before I was aware of it the robbers were on hand, making things lively, I shut up the hive, and left. The next hive (box) was entirely gone; every bee dead. The remainder appear to be all right. Now, where the *fool* part comes in is this: Some of these hives are two stories, and the top one with ten frames all solidly full of honey. I went into them to see and know they were full, with perhaps a single row of cells running diagonally from top to bottom that the bees have emptied, or perhaps never filled. Now, what ought to be done with a chap who neglects his business so shamefully as this? Suppose Henry Bergh should have a lieutenant here in Missouri, what is to hinder him having me pilloried before the public as a warning to bee-keepers everywhere? I don't know that he could, but I feel that he ought to any way. If putting a horse in a stable and leaving him there until he starved to death is "cruelty to animals," what is it to let a hive of bees starve with a surplus of honey on hand? Of course, I did not know that they were starving, neither did I put myself to any trouble to find out, and consequently have no excuse whatever to offer. P. A. MALLOY.

Arno, ♀ Mo., March 24, 1885.

I am glad to see you so willing to confess your sins, friend M., and may be the lashing will hit a few others besides yourself. It is a shame, I agree with you, for a bee-keeper to starve his bees when he can give them enough in fifteen minutes to last them as many weeks. Just think of it! only a minute a week demanded by each colony; and then in the face of that, to let bees starve to death in the spring of the year! I think Mr. Bergh had better come and settle where bee-men are.

A NOVICE'S EXPERIENCE WITH QUEENS.

A CHAPTER FROM REAL LIFE.

We began the spring of 1884 with five fair colonies. They built up well, and the first swarm issued May 24; soon came a second and third swarm from the same colony. The other colonies swarmed at intervals until the middle of June. We began to find our young queens missing; they ventured out, but never returned. Then we gave eggs and young larvæ, and tried to rear queens. One colony reared a large fine-looking queen, but she had imperfect wings. We discovered her at the entrance of the hive with bees around her, evidently anxious for her flight. Several times we saw her looking over the field. At last we caught her and gave the bees a frame of larvæ. For some reason they did not succeed in rearing a queen.

We now had four or five colonies queenless, and began to think of some redress. Afriendin Farwell gave us a very nice-looking queen. We sent to A. I. Root for a dollar queen. She came, a small dark-looking one. We succeeded in safely introducing her, and watched her progress. The brood looked patchy, and the bees seemed to die more than from other colonies. We pronounced her "no good," and thought, when spring came, we would supersede her. The spring has come; the bees seem working well, and the queen has improved so much in appearance that we have changed our opinion.

We had read "Alley on Queen-Rearing," and concluded, with the credulity of a child, that if we could get some Alley queens we should revolutionize things. We sent to Alley for two queens—one a tested queen, the other a warranted selected one, and the *Apiculturist*. The queens came, nice-looking ones, and directions for introducing them. Surely we shall now succeed. We gave the tested queen to a colony that had long been queenless, following directions. She was balled—the bees utterly refused her. We caught the queen, and in our efforts to cage her she flew away. Our dismay can better be imagined than described. We looked here and there. Soon we saw, from the commotion of the bees on the frames outside the hive, that the queen had returned. This time we caged her and tried introducing her in a Peet cage. It was of no use. The bees would have none of her.

We now tried another colony; and when all seemed right we let her run down the frames. We kept a careful watch, and soon found all was not right. In our attempts to secure her this time she was lost indeed—we have always thought she was stung to death. The warranted queen we gave to a nucleus, and she was gladly received. She did well through the fall, and we thought we had a treasure. Her bees suffered severely from disease last winter, but I felt sure, by contracting the brood-chamber, they would build up. A day or two ago I examined the colony, and found bees enough only to cover the palm of the hand. The queen looked dilapidated, discouraged, and forsaken. I immediately gave them two frames, with bees and larvæ in all stages, not being able to find full frames of brood with bees just eating through. Undoubtedly it was a bad case of spring dwindling. We await results.

After our loss of the tested Alley queen I sent for another, stating expressly that I wanted it to rear queens from, and would send more money if needed. A queen came that was safely introduced. The fall was mild. The other queens were laying, but this queen seemed idle. I wrote to Mr. Alley, inquiring about her. I received no answer. After a time she did rear a little brood, and we had hopes of a better result in the spring. In February the bees from this colony seemed restless, looking for something they could not find. In a day or two I found the dead queen outside the hive. In April this colony was united to a very weak one that came through with a queen and a corporal's guard.

At present they seem to be doing well. My hopes of rearing queens from the Alley stock are blasted. The *Apiculturist* has ceased to visit me, and I give our experience in the hope that some beginner may realize how unsafe it is to "count the chickens before they are hatched." M. A. P.

Friend P., it does seem from your little story as if bee-keeping were a precarious business at best. It seems to me that, if we could get down to it, we should find the key to all your troubles to be that you had violated some simple rule in bee culture. For instance, I can not understand how it is that you lost so many queens unless you set your hives too close together. If it should transpire that you set your whole four, together with the new swarm as it came out, all close together in a row (on a long bench, for in-

stance, as we often see them), then it would be very plain and clear why you had such troubles with your queens. I watched carefully while going over your article, to find mention somewhere that you had the A B C book or some other guide to go by. If you have not, your first duty is to get one. Taking a bee-journal will not compensate for the lack of a good treatise on bees. Our bee-journals take it for granted that their readers are posted on the fundamentals before they commence taking a journal. Should we do otherwise, it would be a constant repetition of the rudiments of the science year after year.

SWARMING TIME,

AND THE WAY NATURAL SWARMING GOES MANY TIMES.

I HAD 5 swarms from 6 stands; saved 4, all large ones too. I had rather lively times last Sunday. One new swarm I put in a box gum until my Simplicity hives could get here. Well, I tried to get them into a Simplicity, but go they would not. So on Sunday they came out and settled nicely, and then I got them into the Simplicity hive. About that time a new swarm came from one of my box hives, and settled near the others; and by the time I got them fixed, another came out of another box hive, and settled in two trees. Well, I fixed a Simplicity hive for each, and shook them down, when they both got into one hive. Well, about that time an absconding swarm of my neighbor's came over, and they, too, went into the hive. Now a commotion was caused, and the second swarm began to be troubled, when it and the first one from the box hive I had been trying to get into a Simplicity hive went together; so, instead, as I first thought of having four hives with five swarms, by night I had only one hive of bees. They *all* went together before sundown, and on Monday, by 9 o'clock, they were flying about as if they all intended to swarm and get righted up. But, no; they (a great many) went back into the old box hives they came from, but left a great many bees in the Simplicity.

At dark I took a look into the hive; and, upon my word, the Simplicity was chock full of bees. Only one frame out of the 14 I could get out. The bees were clustered over the rest and clear to the bottom of the hive. Do you think the swarm from the box hive I was trying to get into a Simplicity hive could have united with the absconding one, and the other two young swarms went back to their parent hive? I can not see how else they could have done. It puzzled me considerably, now I tell you.

Please tell me how long they will begin to store honey in the section boxes after they swarm and are put into a Simplicity hive; and what do you think of my putting a board over the old box hives, with a hole or holes open over those in top of box hive, and placing one of the honey-crates and boxes on, and cover with half-story cover? Think they will make me any box honey that way? I should not like to try to transfer them until I get a little more used to them. I thought I would try that plan this summer any way. R. J. WATERS.

New Madrid, Mo., May 14, 1885.

Friend W., just such troubles and mixing-up of matters is pretty sure to ensue where natural swarming is allowed, and this is one reason why I do not like it. I should think the most of it was caused because your hives were full, and your bees had no room to work. Boring holes through the top of the box hive is not quite the thing. It does not afford opening enough, unless there are a great many holes, and they are pretty large. Better pry off the top of the box hive and set your case of sections right over the combs. If the bees have been some time in the box hive, there will be no danger of the combs breaking, even if the whole top is removed entirely. When bees get the swarming mania there is no accounting for what they may do. They will push out and push in everywhere, under all circumstances, and get all in a heap, as yours did, and I do not know how to lay down any very precise rules of management. A better way is to be sure that our bees have plenty of room, and by this means discourage swarming as much as we can.

REPORTS DISCOURAGING.

REPORTS DISCOURAGING FROM IOWA.

I HAVE been looking in GLEANINGS for a report from Iowa, descriptive of our present condition in the "beesness," but I found none. I suppose the brethren all feel too bad to "get up and speak in meetin'." The losses of the past winter exceed any thing ever before known in this section. Three-fourths of the bee-keepers lost all. The few that remain are mostly miserable weaklings. Out of 69 I saved 30; only 6 of that number are in good condition; five of the latter are in chaff hives. Every few days we "git a sarm," but after every "sarm" we have one "sarm" less. The severe winter accounts for the trouble. Our winter set in Dec. 2, and continued almost solid until March 26. From Jan. 1st to April 1st we had only 9 days that the mercury stood above freezing at 7 A.M. On 25 days during that time the mercury showed below zero at some time of day. From Jan. 15th to 22d inclusive, from zero to 20 below; from 9th to 13th inclusive, from zero to 18 below. From Feb. 15th to 23d inclusive, from zero to 18 below. Jan. 21st, 7 below zero at 2 P.M. Feb. 12th, 12 below zero at 1 P.M. No supplies wanted. If this doesn't do for Blasted Hopes, I would suggest that you send some one to Greenland to try bee-keeping. G. B. REPLOGLE.

Udell, Ia., May, 1885.

TURNED OVER THE BEES TO THE WOMEN, AND GONE TO FARMING.

I am not a fit subject for Blasted Hopes, but my hopes are "busted." I went into winter quarters with 52, and I now have 13; those 13 I turned over to a female friend of mine who writes her name Mrs. Snyder, and I have gone to farming. If I should get the bee-fever again, I will let you know by sending for goods. The bee-keepers in this part lost fully 75 per cent. F. L. SNYDER.

Orion, Wis., Apr. 25, 1885.

The winter of 1879 put me in Blasted Hopes. The past winter puts me there again, along with most of my neighbors. I have a nice lot of combs to use in building up. I shall have my hives full by July.

15—J. P. C. STEDDOM, 15—1.

Webster, Ind., May 11, 1885.

HEADS OF GRAIN
FROM DIFFERENT FIELDS.

ADJUSTING THE SPACES SO AS TO PREVENT HAVING BITS OF COMB BUILT ON THE OUTSIDE OF THE SECTIONS.

HAVING had some experience in the production of comb honey, I thought I would venture to write you a few items of my past experience. My first experiment was to prevent the bees daubing the sections with bits of comb and propolis, as it seemed to be my greatest trouble. I found, by changing the regular space of $\frac{3}{8}$ inch between the brood-chamber and honey-boxes, or crates, to $\frac{1}{4}$ inch, or just enough space to admit a passage between, I could prevent them from building those little bridges of comb. Next I made my crates deeper, so I had the same space between the top of sections and cover as between the brood-chamber and sections, and I found they would stick their glue, or propolis, around the joints of cover. By following the above plan I can say it gave me entire satisfaction. JACK ELLIS.

Grantslick, Ky., March 2, 1885.

A HOME-MADE CIRCULAR HAND-POWER SAW.

I have been making a hand-power saw by your directions, which works so well I will tell you about it. To drive it I got an old horse-power wheel, about five feet in diameter, fitted a carriage-axle to the bearing, and bolted the axle to two posts. I turn it by a pin in one of the spokes. When I tried it I did not like the bevel guage, for the part of the board that had been cut would cramp the saw. Then I made one to slide in place of the cut-off bar, with a strip at the back edge to rest the lumber against. This works splendidly. I also changed my cut-off bar by having the cross-piece double the front one worked by two set-screws so that it can be changed to any angle. This works very nicely too.

Your A B C is the best book I ever saw. I would not be without it for any thing. I have been very successful with bees, and have never lost a colony by wintering. I started with Langstroth hives, but have given them up for Simplicity. E. S. LEA.

Brighton, Md., March 5, 1885.

PREVENTING BEES FROM SWARMING OUT, WITHOUT A DRONE-TRAP.

When a man has not any frames of brood to give a swarm to make them stay in the hive, why not shove it back on the bottom-board so the bees can just get in and out, or use a Jones drone-guard, or something to keep the queen in the hive until they get a start at work, and then you can give them more room? I suppose you have thought of this before, but I have never seen it in print. I am here staying through the winter, and am trying to help some in bee culture. It is in its infancy here at present, and bees can be bought in old gums for $2.00 and $2.50; but I think it will be quite a business after a time. I can not see way it won't. There are orange groves going out every year, from one to 50 acres, and they yield more honey to the single flower than a bee can carry. I shall try it until the last of May, and then go north. I cut a tree 7 feet through last week, and took out a swarm, and they were not going to stay, and I had to clip the queen. I had one of your hives, and shoved it back until the bees could just go in and out, and then they went to work. Oranges are just blooming here, and I am going to see what I can do with them. I will try for 100 lbs. comb honey.

Silverton, Fla., March 9, 1885. A. W. LINDSLEY.

Friend L., sliding the Simplicity hive back on the bottom-board would answer to graduate the entrance so as to permit workers to pass, but not queens and drones, were the edge of the bottom and the edge of the hive sufficiently accurate; in fact, I have tried the same thing, but the wood is too irregular. We either hindered the bees very much, or else the queen would find a place she could get through. I fear the edges of your hive and bottom-board would have to be of metal, to make a success.

THE X Y Z OF POTATO CULTURE.

You speak in the last GLEANINGS about the A B C of Potato Culture. Now, here in Arkansas we would rather see the X Y Z of Potato Culture. We can raise potatoes, but the trouble is to keep them. They commence rotting about as soon as they get ripe. If your book will tell us how to avoid this, so as to save them for our seed next year, I think it would be a boon to Arkansas.

Bees all lived through the winter that had honey enough, and are generally doing well. We are right in the midst of swarming time.

We have been feasting on strawberries about ten days. Next come huckleberries, and the woods are full of them. DANIEL HOWARD.

Hot Springs, Ark., May 11, 1885.

Friend H., Mr. Terry considers the matter of keeping potatoes, very thoroughly; and I think his plan will do it, without a doubt, if you keep the temperature as low as he directs. Possibly in your climate it might be a difficult matter. It could be done, however, by means of ice, but that might be more than the potatoes are worth. By adopting the plan he suggests, however, a very little ice would keep a great many potatoes.—If strawberries and huckleberries are plentiful where you are, it seems to me it is the very place I should like to visit.

HOW MUCH CHAFF DO WE PUT OVER OUR BEES?

Just a word of explanation in regard to the amount of chaff you put over your bees in winter. In reply to Mrs. Axtell, you say, "After putting on this sheet of coarse burlap we put about a peck of loose chaff around the edges, making it impossible for the bees to push up, and so get around the ventilators in the cover." Now, is this all the chaff you put over them? My chaff cushions are from 6 to 8 inches thick, and I have thought perhaps it was too much. Have you discarded the Hill device? I use it and the burlap under my burlap cushions. 7—G. E. HILTON, 60—45.

Fremont, Mich., May 18, 1885.

Friend H., I omitted to mention the usual chaff cushions, because I supposed they were understood as a matter of course. Yes, we still continue to use the Hill device, and I think we always shall, so long as we winter as successfully as we have since using it. The Hill device makes a sort of chamber, as it were, above the brood-combs; and the cushions we use of late years are all made of coarse burlap — so coarse, in fact, that the chaff rattles through it to some extent, so you see that air has a

free passage through the loose chaff, and the cluster of bees under the Hill device have always plenty of air, no matter if the entrance is sealed up solid by an icy storm; and yet the loose chaff holds warm air enough so that the bees are never exposed to a chilling current of air.

TRIALS OF A BEGINNER IN BEE CULTURE.

I have been a silent observer and close reader of GLEANINGS for about a year, and have noted with much interest the various experiences of different individuals, which has tempted me to throw in my mite and make my first report, which is as follows: In August, 1883, under some peculiar circumstances I was induced to trade for 18 stands of bees—15 in box, and 3 in Langstroth hives, in various conditions as to strength; and under peculiar circumstances I was obliged to move them four miles over a very rough road one of the hottest days or nights there were in said month. The consequence was, my three best colonies, and Italians at that, in my Langstroth hives, were melted down and smothered, and several in the box hives nearly ruined. Oh what a day and night of horror! It makes my heart jump and my blood curdle when I think of what suffering of mind and body I passed through that day. Bees were dumped out on a temporary platform, honey dripping through, bees all flying, stands to fix, bee-man gone, and everybody afraid to come in the yard: house full of bees, family all fled or hid, and I alone to suffer. But before morning it turned a little cooler. I got my bee-man to come to my assistance by sending a time or two, then going after him, though he had promised to come back and set them up, but took suddenly ill after he had got his pay. But order being finally restored, the spring of 1884 found me with 14 stands.

Pine Grove, O., May 8, 1885. S. DANIELS.

Friend D., your little story illustrates vividly the importance of commencing with one, or at the most two colonies at a time, as I have so often urged. You began by making a purchase of 18 stands, when you were unfit to manage even one. I know something about your sufferings, mental and physical, for I have been through the same troubles; whereas, had you commenced small and increased your responsibilities as you were able to bear them, you would have enjoyed the work all through.

POOR SUCCESS IN WINTERING ON SUMMER STANDS.

My bees were packed about the middle of November, as follows: I used 1½-story hives with two division-boards—one on each side of brood-nest. The frames had holes through the center, or else sticks were laid on top of the frames for passage-ways, and a cotton cushion on top of the frames. On the side of division-boards, and on top of cotton cushion, clover chaff was packed in about five inches thick, but not tight, and still I have lost heavily. I think the packing was all right, as I wintered them in the foregoing way before, and didn't lose many; but the long confinement, and poor honey which they gathered last fall, gave them the dysentery, and thus they die with plenty of honey in the hive. Unprotected bees are all dead. Out of about 450 stands of bees which were put in winter quarters last fall, only about 50 are left in this township. In our township (Eden, La Grange Co.), our assessor worked six days before he came to me, and found only two colonies alive. He assessed our bees at $1.00 per stand, which makes about 60 cts. tax on one hundred stands.

My apiary would make a nice picture in GLEANINGS now, to see the empty hives piled up along the fence, with a dozen or more hives set in rotation that are alive yet. I can not accommodate my home demand for full colonies this spring. I have borrowed neighbor S.'s apiary to raise bees and queens for sale.

HOW TO BRING CHILLED BEES TO LIFE AGAIN.

To-day noon I walked out in my apiary where I had a small nucleus standing. I opened it, and I saw they were dead (or, at least, I thought they were). I lifted out two frames where they clustered. They showed no signs of life. Then I supposed they were only chilled, because it was so cold for the last three days that the bees could not fly. So I put the frames back into the hive, and took up the hive and carried it into the house upstairs, to the stove-pipe that goes through the floor from the stove below, and took the two frames out again and blowed my breath over the cluster a few times, and soon they showed signs of life. I had some syrup in the cupboard, which was made from granulated sugar and water. I went and got it, and made it milk-warm, then I took a tablespoon and dropped the syrup over and around the cluster. In less than half an hour I had my nucleus restored to life. Two hours after, I opened the hive again and the bees then came boiling up through the frames. Then I went to neighbor S.'s apiary and there I found two nuclei in the same condition, and I treated them in the same way. Then I went to neighbor E.'s, and there I found one in the same condition; again, this was treated in the same way. Now all are alive again, except one queen which was chilled too much, and died.

Now, brother bee-keepers, especially beginners, don't be in too much of a hurry to throw these supposed dead bees out of the hive, that you are sure were alive two or three days before. By the above operation you can save many a valuable queen. I have tried this before this spring, and I therefore know that you can save them.

9—J. C. MISHLER, 9.

Ligonier, Ind., May 9, 1885.

Friend M., I do not believe that cotton is good material for the cushions, and I am inclined to think clover chaff is not porous enough. I should prefer loose oat chaff, and coarse burlap for the cushions. It seems to me it is quite important that this matter of restoring chilled bees be well understood. Hundreds of colonies might have been saved during the past cold spring, had their owners been on the alert, and looked after them as you did.

PYRACANTHA AS A HEDGE AND HONEY PLANT.

Our bees have been swarming incessantly for the last two weeks. There has not been a day but they sent out from one to four swarms, except Sunday. Mine are not "Sabbath-breakers," like friend Doolittle's. Bees are swarming on "pyracantha" hedge-plant now, which seems to be a splendid honey-plant. We have another honey-plant called McCartney rose, which the bees work on very much. W. C. WRIGHT.

Reagan, Tex., April 21, 1885.

HOW TO PREVENT BEES FROM BUILDING BETWEEN THE UPPER AND LOWER STORIES.

Some three years ago I wrote to you, asking if there was any way to prevent bees building comb between the brood and wide frames. I did not get any satisfactory answer. I experimented, and found that strips of tin fastened to the bottom-bar of wide frames remedied the evil entirely. I should not think that tin on top-bar of brood frame, as I see by May GLEANINGS, was half as good. Just try my suggestion the coming season, and then you won't have any more inquiry in regard to preventing their building comb so that it is impossible to get the wide frames out. J. A. HAYNES.

Stockport, N. Y., May 11, 1885.

I was well aware, friend H., that bees are quite averse to attaching combs to smooth tin, and the same thing has been accomplished in a cheaper way by simply painting the top-bars. Covering all our frames with tin is pretty expensive, and even painting is somewhat so. I suppose you know that Heddon's honey-board is principally for the accomplishment of this same thing; and may it not be the cheapest way to manage it?

A GOOD MAN.

Somebody sends us a scrap from a newspaper, containing the following:

"I plows, I sows, I reaps, I mows, I cuts up wood for winter: I digs, I hoes, and taters grows; and for what I knows, I am indebted to the printer. I do suppose all knowledge flows right from the printing-press, so off I goes in these 'ere clothes and settle up—I guess."

Come to think of it, it must be that the man had been reading our new potato-book, especially if he went and settled up as he started to do.

FRIEND D. MC KENZIE PROPOSES TO SELL BEES BY THE POUND.

I have 150 colonies of bees more than I know what to do with, and so I think I could spare a few pounds, especially as they are so strong I can not catch the queens after I have got the money for them (I mean the hybrids, 50 and 25 cts. each). Wife put on the veil and helped half a day to catch 5 queens and caught only one, and that a new weak swarm, and then she said she would burn them up (but brimstone costs money), or I would not have so many bees to-day by at least 100 colonies. Don't put this in GLEANINGS.

THE INDIFFERENT IMPORTED QUEEN

You sent to replace, came to hand on the 6th inst.; three-fourths of the bees were dead (chilled, I suppose). I thought the jig was up with the whole concern. I gave them to my wife to warm up, like the chickens, while I read the mail. It was good news when she told me that the queen was alive, but smaller than lots of our bees. I call them the race-horses. What makes some bees so very large, and some so very small, when they all have "all out of doors to grow"? Why, friend Root, if I had come across the little thing in one of my hives, without knowing who she was, I would have killed her for a black virgin, and yet I suppose she will do me more good than the $6.00 best imported. If it went by the size, "the cow could catch the hare." I had her in the hive the day before I got the postal. I thought you were like me—had more queens than postals. D. MCKENZIE.

Camp Parapet, New Orleans, La., May 8, 1885.

DO NOT BE IN TOO GREAT HASTE TO CONDEMN A QUEEN.

The imported queen you told me to winter and try further is all right this spring. Strange her eggs did not hatch last fall. Please accept thanks for your fair way of doing. CALVIN LOVETT.

Otsego, Mich., April 21, 1885.

I have often known queens to refuse to lay late in the fall, although we plied their colonies with feed, and did every thing we could; yet in the spring they would be all right. In the above case the queen laid eggs, but the eggs did not hatch. As she is an imported queen, and valuable, we advised friend L. to winter her any way, and then report. We are glad to see that she has turned out all right, and we would ask friend L. to watch her carefully, and inform us if she proves as good a queen as any, after more extended trial.

DORMAN'S REPORT; A GOOD PROSPECT OF ONLY PURE ITALIANS.

As a good many are sending in their reports, I send mine. Last winter I wrote to you that I had 52 stands to go into winter quarters. They wintered well up to March; from then until the present time I have lost 22 stands, which leaves me thirty good colonies to begin the season with. They died with dysentery. Some of them had honey-dew to winter on, and I lay it to the cause of their death. Last fall they gathered nothing but honey-dew, which is something remarkable, as I have never known them to gather it before. I have four gallons of it, and it tastes like beet sugar, and is a very dark color. There has been a general cleaning-out of the black bees in this locality, which makes a splendid prospect for raising pure Italian queens.

MOVING BEES A QUARTER OF A MILE DURING WARM WEATHER.

I expect to move my bees out of town a quarter of a mile from my old location. Can I move them without their coming back? I have called the new yard Sunny Eden. W. S. DORMAN.

Mechanicsville, Ia., May 6, 1885.

Friend D., you will have quite a job if you move your bees just at this time of year so short a distance, I fear. It can be sometimes managed this way, however: Move your strongest colony first, and the returning bees will unite with the remaining stocks. Move the strongest again, and so on. When you get down to the weakest you will find them overflowing with bees. After you take the last one away, probably quite a good many bees will come back to the old locality. One of our boys tried the same experiment a couple of years ago; but so many bees came back when the last hive was moved that they made quite a respectable little swarm. They clustered and hung out over night on a bush. He then took pity on them and gave them a queen, and they built up to a good colony.—We hope Sunny Eden will be worthy of its name, friend D.

AN ITEM IN REGARD TO BEE-FEEDERS.

Take a round piece of wood, fitted loosely in the top of a can filled with honey or syrup, the edge of the lid chamfered so the bees can suck the feed up between the edge of the can and the lid. As the food is taken out, the lid will settle down till the

feed is all taken, and the lid will be at the bottom of the can. The nice part is, a bee can not drown if he should try; and another thing is, they are as cheap as dirt, and can be made any size desired.

Martinsville, Mo., Apr. 5, 1885. D. KEECH.

I will explain to the readers, that friend K.'s feeder is made by putting a proper-sized float into any glass or tin can having straight sides, or sides nearly straight. A glass tumbler, with the sides nearly straight, I think would answer. Get a wooden wheel that just fills the tumbler while it lies at the bottom. Bevel the upper circumference of this wheel so it will make a sort of knife edge all around. Now if you fill the tumbler with honey, and drop in the wooden float, a little channel will be left all around next to the glass, with honey in the bottom of it. As fast as they lick out the honey, the float will sink. This will no doubt work nicely; but after a while your wooden float gets soaked with honey, and becomes nasty and sticky, and is apt to smell bad besides. This latter objection would, however, apply to any feeder made of wood. Feeders made of tin get rusty in time. Now, if we could have something made of glass, it seems to me it would be a pretty nice thing; but even then it would be liable to get broken.

MRS. COTTON.

The *Farm and Garden* for May has the following to say in regard to her:

Mrs. Lizzie Cotton, whose acquaintance has proved to be *very dear* to most of our bee-keepers, has found means to escape the vigilance of "farmer" Atkinson's watch-dog. We see her "ads." in one or the other of the more careless agricultural papers, but as for an editorial endorsement—we had thought that a thing of impossibility.

"Lizzie" has been exposed as an old fraud. Her high-priced model bee-hive is a very *small* model, and *a full-sized hive, made after this pattern*, is no better than any common movable-comb hive. She has for many years swindled the gullible bee-keepers so persistently that even her sex was questioned. Has she now turned over a new leaf? Has she become honest? The change is almost too sudden. Let our friends steer clear of her.

STRONG SWARMS ROBBING WEAK ONES.

This used to annoy me very much. I could find no effective remedy in A B C or GLEANINGS, so I hit on this plan: Watch where the robbers go, then change the hives; put the robbers' hive in place of the one being robbed, and the other in their place, then you will see how bad they will be beat. This may be an old plan; if so, I have not seen it.

TO GET THE COMBS BUILT DOWN TO THE BOTTOM-BAR

I raise the hive up about one inch from bottom-board. ISAAC WYKOFF, 17—12.

Cameron, Pa., April 23, 1885.

Friend W., your plan of exchanging places with a weak and strong colony when they are robbing is an old idea. It usually answers well, I believe, but sometimes it does not do at all, and it is always a severe shock to the prosperity of a strong colony. On this latter account I should hardly want to advise it as a rule, especially if the robbed colony is very weak in numbers.—Your plan of getting combs clear down to the bottom-board is all right. The same idea has been suggested in our columns before, but not quite as you put it. We accomplished it by raising the frames, and you raised the whole hive. This could be done nicely with the Simplicity hive by turning the bottom-board hollow side upward. Separate them a little at one end to make an entrance, and when your combs are built down to suit you, put them back in their proper place.

CARP-PONDS; WILL THEY PAY?

I should like to inquire a little in regard to carp fish. Your pond is how large, and how do the little fish get along? But the most necessary thing for me to know is, Does it really pay to spend $200 to build a pond about 70 feet square, or, in other words, can we really expect to get that money out again? If so, how soon? The above is a most important question, as I intend to make one, and it will cost me that much to get it done. D. E. BEST.

Best's, Pa., April 6, 1885.

No, my friend, I do not think it will pay. Our carp-pond is larger than you mention, but it was made from a piece of waste ground that was of no value whatever, and the total expense was less than one-fourth of $200. I would not advise anybody to make a pond at the present time, in the present state of our information, with the idea of making money. If you can use the pond for other purposes, such as a skating-rink for the children in winter, a place to get ice for summer, or by way of ornamenting your grounds, it may pay indirectly; but I should say that $200 would be a pretty good price for a pond of the dimensions you name. With proper tools and a team, a pond can often be built during a time when you would not be likely to do much else.

BEES WORKING ON FRUIT-BLOOM AND RAPE AT THE SAME TIME.

My bees are now gathering honey from fruit-bloom and rape. C. R. SCHMELTZER.

Scholl's Ferry, Oregon, April 7, 1885.

From the above report it would seem that rape can be made to bloom very early in the spring; or, at least, it is practical in Oregon. Now the question comes up, What is the difference between this rape and the seven-top turnip? or is not this kind of rape that blossoms so early what we call winter rape? and is it not identical with seven-top turnip? I have seen both in bloom on our grounds at the same time, and I could discover no difference.

GIVING BEES WATER IN THE COMB DURING SHIPMENT.

When shipping bees I give them water differently from any thing I have ever heard of. You advise sending nine frames. I send ten. I put water in one of them the same as G. M. Doolittle puts in syrup for feeding. You can put in a pint of water, more or less, according to the distance they have to go. It's the best of any thing I ever tried, but perhaps it's old with you.

I wish you would tell us in GLEANINGS how you bend your tin rabbets for hives. I don't find any one who can fold them with a tin-folder, but that makes them round on the bottom. D. S. BASSETT.

Farnumsville, Mass.

Friend B., we tried your plan some years ago; but as the most of our shipping is done at a time when bees are gathering new honey, we have hardly thought it necessary, for new honey generally contains a large

quantity of water; in fact, it often runs out of the combs on to our clothing, when the combs are tipped sidewise. At times, when the honey is all old and sealed, I should think very likely a supply of water would be an advantage, especially during hot weather.—A good tinner's folder will fold the rabbets all right; but a folder that is made strong enough and accurate enough to do it properly, costs $30.00 or $40.00. If the rabbets are slightly rounded on the bottom, it does not matter materially.

MAKING DARK HONEY WHITE.

I read a short time ago in a newspaper, that in sugar-refineries the syrup is filtered through animal charcoal, and by this process the syrup lost its color. Will you please ascertain if this report is correct? and also ascertain the exact way to proceed, and the cost of this process? Please attend to this matter, and give results in GLEANINGS. We have a great deal of colored honey (No. 1 in quality), but unsalable on account of color, and if a cheap process can be ascertained it will add thousands of dollars to the earnings of bee-keepers.

Mauston, Wis., Apr. 14, 1885. CHAS. H. GROTE.

I believe it is a fact, friend G., that sugar-refiners do remove the coloring matter from syrup by filtering it through animal charcoal. I do not know whether the idea is possible with honey or not; but I agree with you, that it would be a most desirable process if possible. Have we, among our readers, any one sufficiently acquainted with sugar refining to answer friend G.'s question?

BEE-KEEPING AS A BUSINESS.

I happened to be writing to one of my old A B C scholars; and as I had not heard of him for some time I asked him if he was still a bee-man. The following is his reply, and there seems to be a moral in it:

As for being a "bee-man," I came as near getting over it this winter as I ever did. They "friz." Now don't tell me to fix 'em up warm in chaff hives, etc. I know all that. When I lose bees it is always the colonies that are seemingly strongest and best prepared for winter. The strongest swarm I have now was in one-story Simplicity, no cushion, several holes in cover; late swarm. I do not talk and write as much about bees as formerly, but like them as well as ever, and make them pay their way. It is easier to get 100 lbs. per colony, than it used to be to get 25 lbs., because of "the know how." It seems at times as if bees were the best stock a man can keep; at other times they seem a mystery, a delusion, and a snare. But for all that I expect to own a few colonies as long as I perambulate this little ball of mud. I'm not sure but I'll get some of A. I. Root's cheap big baskets to winter them in; take bees out of hive on to bottom-board, turn basket over them, and winter all right. See?

Remson Corners, O., Apr. 15, 1885. S. LUCAS.

Friend L., the point you make, that bees winter with a hive full of openings, when they do not winter with the best of protection, has been made several times, and I think it points out pretty clearly that you have been packing your bees too closely. Put loose chaff and nothing more over the frames; or if that is not sufficiently porous, fill the upper story of the chaff hive with forest-leaves, dry and loose. To prevent the bees from getting up among the leaves, I would use a burlap sheet. May be the cheap big baskets would answer better than some of the hives you have been using.

A LITTLE STORY WITH A MORAL.

When the postmaster saw the last metal block come he dived down into a box and brought up another. It seems it had got lost out of the package of metal corners, and he had not known whom it was for, so it lay in the office all the time. If I had asked him for it he would have given it to me.

ALBERT W. HINDE.

Anaheim, Cal., Mar. 31, 1885.

I suppose that most of you have had experience in inquiring for things both at express offices and postoffices, and being told they were not there, and it afterward transpired that the same thing had been waiting for an owner for some time. One of the hardest things to manage I have ever found, in almost any department of business, is to avoid the accumulation of rubbish. Sometimes I go into the counter store and find a variety of odd traps stuck here and there. When the clerks are called, sometimes they reply, "Why, it has been lying around here this long while;" and in spite of every thing I can do, we have this state of affairs over and over. At the very time that they were tolerating or harboring this accumulation of rubbish, somebody was suffering sadly for the need of the very article. We try to tie up all packages so that it is almost impossible for the label or address to get detached; but for all that, they do sometimes get astray in the mail-bags. Now, if I were looking and waiting for something as you were, friend H., I would go to my postmaster and say something like this: "I have been watching and waiting very anxiously for a little square piece of iron that was to come through the mails. You have not come across any such thing 'lying around loose,' have you?" A great many times such an explanation will bring the missing thing to light where you would not find it otherwise. The same is true of the express business.

KIND WORDS IN REGARD TO BURMAH.

Great streams from little fountains flow,
Great oaks from little acorns grow.

I am reminded of the value of *little* things very forcibly by reading those letters from our missionary brother in Burmah. Some four years ago I asked you to send GLEANINGS to him, which you kindly did. *That*, like a little seed, dropped on fertile soil, sprang up, and lo! from this we have the "Pioneer Apiary of Burmah" already fully under way, with unlimited possibilities of usefulness in developing an industry which may be made of great value to the benighted race. It is a great pleasure to read Bro. Bunker's good letters, and to think that we helped him—just a little—to get started. Let's shake hands, Bro. Root, and all rejoice together. Let us not neglect, "as we have opportunity," to drop a seed now and then, in out-of-the-way places, which may "bear wheat, perchance some other grain."

In pursuance of this thought I have rolled up a package of Sunday-school papers to send out to a desolate home in the wilds of the Elk Mountains, of Colorado. Two little girls of ten and twelve years

live there with a drunken father, far away from school or neighbors or Christian influence. I hope the roll of pretty papers may brighten those sad little faces and cheer their dreary life a trifle. How I came to know of them would take too long to tell, and be a story in itself.

Our bees did rather poorly last season in the way of surplus. The heavy and continued rains seemed to wash the sweet all out of the flowers. This has been a hard winter so far, and many bees have "turned up their little toes." We went into winter quarters with 50 colonies. CLARA BUNKER.

El Dara, Ill.

A HINT OR TWO ON WINTERING.

I had last fall 35 colonies that I started to winter, and I have now 25. I let them alone until March 4, when it had been warm for two days, and I thought I must look some of them over. I found them all alive, with a few without any honey near the cluster; those, I moved the outside combs up near the bees so they could reach the honey. That night it came off cold, and remained so for the rest of the month. April 1st I found that four had died (three whose honey I moved), and two more ready to go, with only a few bees and a queen, which I couldn't save. It was warm about the middle of April, and I found four colonies dwindling. I tried to save them by adding hatching brood, but it was of no use, for it came around cold again, and most of the brood was lost (the bees were dying very fast, and there were not bees enough to cover the brood). Don't advise putting brood to weak colonies in a cold spring; better form a nucleus by taking one or two frames of hatching brood covered with bees, and shut them up in a good warm hive with division-boards, in a snug place for three days, and then put them in your dwindling colony.

The bees that I lost were from late August and September queens, except two that I disturbed every day in March, by going after hens' eggs in the leaves beside the hive. The honey in the others, although there was enough, was too scattering. The hives were my chaff hives. I shall see to it in the future, that my bees have sealed sugar or honey in every frame to the bottom, and then be contented until warm weather before I look at them. I moved my bees last November to where I now live, so that had something to do about the loss. J. L. HYDE.

Pomfret Landing, Ct., May 18, 1885.

"BE YE NOT WEARY," ETC.

I noticed friend Waterhouse, in GLEANINGS of Apr. 15, says he can produce as cheap and good extracted honey as any one. Well, he deserves it, because he went through his tribulation and apprenticeship without getting discouraged, and comfort is his reward. CHAS. GUTEKUNST.

Bayou Chene, La., April 27, 1885.

What you say, friend G., is simply another way of expressing the old Bible promise that I have started at the head of this.

HIBERNATION; DOES IT INJURE A BEE TO BE THAWED OUT QUICK?

I read Mr. Doolittle's article on the hibernation theory with much interest. I think that perhaps it's not quite complete. In the first place I don't think that a frozen bee or insect of any kind can be handled carefully enough to be free from injury while frozen hard. Second, thawing them out too rapidly seems to be an injury. Just think of how very cold our fingers feel when warmed too fast; then how different when bathed in cold water. An apple can't be frozen hard enough to injure it here at 40° below zero, provided it is three weeks or a month in thawing out. Then one that is thawed out in two days will turn black, and is then spoiled. If a bee's whole body hurts all over when quickly thawed as my fingers have when quickly warmed, I don't wonder at his dying before he is limber enough to kick. JOHN NORRIS.

Manchester, Ohio.

Friend N., I have often thought of the point you make, but I am inclined to think that it does not hurt a bee to be thawed out as it does a human being; for bees, when warmed up, after being chilled, seem to be just as good as ever in an hour or two.—For a long time I doubted the fact you mention, in regard to apples; but last winter we had turnips frozen as hard as they could be, for months. They were lying on the ground, covered with straw; and when fully thawed out in that position they were as good as those that were never frozen. May be it will not always work, and may be it does not work with all sorts of turnips. Who can tell us?

CAN A CHRISTIAN CONSISTENTLY SELL TOBACCO?

The *Sunday-School Times*, in discussing the above question, which was propounded to them by a Massachusetts subscriber, replies as follows:

A Jerseyman was seen gathering some wild mushrooms in the woods. "Look here, my friend," said the passer-by, "*those* mushrooms are rank poison. You'd better let 'em alone." "Oh! don't be afraid," was the quick response. "I ain't picking 'em to eat. I'm picking 'em to sell." But those are mushrooms, and that was in New Jersey. About selling tobacco in Massachusetts, we would rather not express an opinion.

HEDDON COVERS, ONCE MORE.

I see that you and some others fear that the Heddon covers may be easily blown off the hives. I have used these covers two years, and have never had one displaced by the wind, although I have used no weights of any kind. The bees fasten them with propolis in a few hours, so that it is impossible for the wind to lift them off. They are the lightest covers I have ever used, and the easiest taken off and replaced. I think that about 75 per cent of the bees in this locality will be dead May 1st.

Bloomington, Ills., Apr. 4, 1885. R. I. BARBER.

Thank you, friend B.; but if your bees fasten the covers down with propolis so the wind can not blow them off, they certainly can not slide on to the hives in the way friend H. describes; and if so, how can you put them down into place, unless a very great deal of time be taken, without killing bees?

PHOTOGRAPH OF THE MEMBERS OF THE BEE-KEEPERS' CONGRESS.

Can we not hit on some plan to number and name the bee-keepers of N. O. Bee-Congress photo? I can name 22 of them correctly from memory, and would like to get the rest. JAS. A. NELSON.

Wyandott, Kansas, April 18, 1885.

Friend N., what you speak of would be very desirable indeed, if it could be managed. Perhaps I may explain to our readers, that toward the close of the session it was suggested that the entire lot of bee-keepers present in New Orleans should group them-

selves together on the grass and have our photographs taken. When the question came up, the matter of identifying the different members composing the picture was mentioned, and I called upon the photographer and explained to him fully how we managed it with the bee-keepers' medley; viz., by affixing a number on the negative so that the different individuals would be all numbered, making it possible for an explanatory key to give the name and residence. There was, however, some difficulty with the artist about the matter, and the pictures are sent out without being numbered. Now the question is, Can a printed slip be so arranged as to designate each person, as it is? I confess I do not see just how to manage it where there are so many different people.

A NEW TRICK FOR DISCIPLES OF IZAAK WALTON.

We have a friend of yours in this country, John Ross by name; he is a member of the M. E. Church South, a good bee-man, and an active farmer—a Nimrod of a hunter, and a pretty good member of the Church; but his last trick is new to me. He lives on the bank of Oyster Creek; the trees overhang the water, and John likes fish, but is too fidgetty to fish for them, so he baits his hook and ties the fishing-line to the limb of a live-oak, and ties a cow-bell to the end of the limb. When the fish gets hung on the hook it rings the bell, and John gets up out of bed and takes the fish out of the wet (he sets his line at night). Isn't he smart? G. H. PHAIR.

Velasco, Texas.

Many thanks, friend P. The idea is ingenious; and from what experience I have had I do not see why it would not work. If one could spare the time, his chances would probably be a little better to have control of the line about the time Mr. Fish was getting hooked on; but by having several lines arranged as you mention, I think it might work pretty fairly in a proper locality.

A BROTHER IN TROUBLE.

Too many bees! what shall I do with my bees? My hives are so full of bees and honey that I know not what to do with them. There is not much sale for them in this section, and I have as many colonies as I wish to keep, and I think they will all swarm this season, so I am thinking what is best to do with them. I wish that some of the bee-keepers who have so many empty combs had some of my Italians. Their combs would not be empty a great while. ALBERT G. BRUSH.

Susquehanna, Pa., April 27, 1885.

Dear me, friend B., what a queer lot we are! Some of us are in great trouble because we have not any bees at all, and others are in great trouble because they have so many. What shall you do? Why, divide up with the sufferers, of course, and make the prices as reasonable as you can. Sell them off by the pound; and if you can raise some queens to go with them, it would help all around.

FASTENING THE BEES INTO HIVES WITH WIRE CLOTH FOR CELLAR WINTERING.

We put 26 colonies in cellar, and packed 6 in Root chaff hives on summer stands. The 26 colonies wintered in the cellar are now all alive, with hives full of bees. We wintered in a cellar of 40°, with ventilation through the hive, by covering the bottom with wire screen, and raising the cap ⅛ inch, with one corner of mat thrown back. One hive, where we did not raise the cover, lost nearly as many bees as the other 25, although in other respects put up in the same way. Our chaff hives were contracted to 7 frames, with thin division-boards on each side, chaff between boards and side of hive, upper story filled with chaff, all alive and brooding March first; four dead with dysentery April first. There were but few days in March when the temperature was above zero, and it was down to 26° below during the month. Conclusion: We have decided to winter our bees in the cellar, with 40° of heat, ventilation through hive, wire screen on bottom, both top and bottom ventilation for cellar, with plenty of wholesome sealed honey, and I think we can then stand the most severe winter of this clime. We can't rely on chaff hives here, although we have had bees winter nicely in them heretofore. I don't see that pollen makes any difference in the cellar, as there was no apparent difference in those with and without, excepting brood. J. J. HOLLENBECK.

Saratoga Springs, N. Y., Apr. 25, 1885.

ATTACHMENT FOR BARNES SAW.

A strip of ash, ¼ in. thick, 1¼ in. wide, and 4 ft. long, with one end fastened to the top of the cut-off guage by two screws can be used as an extension, either to the right or left, and a stop can be fastened almost instantly at any point by a small iron clamp, which any blacksmith ought to make for 10 cents. I have used this sort of an extension to the cut-off guage for 4 or 5 years.

E. Springfield, O. R. M. REYNOLDS.

We have many times used something quite similar to what you describe, friend R.

FRIEND MUTH COMMENTS A LITTLE ON THE GENERAL DEPRESSION IN THE SUPPLY BUSINESS.

It appears that you experience, as we do, a very dull season. It was with us, last winter, too much honey on hand and too large a capital invested with too slow a demand for the article. There is no demand for honey now but from our regular customers who had taken a rest last winter. Last year, about this time we were shipping 500 to 1000 beehives per week, while we don't ship 100 hives now. Matters will take a change again after awhile, as has always been the case; we have, therefore, to exercise a Christian patience. CHAS. F. MUTH.

Cincinnati, O., May 15, 1885.

A HOME-MADE TELEPHONE THAT WILL WORK HALF A MILE.

If you want a telephone that will work 1200 or 1300 feet, here is one. Take a piece of green calfskin, and dress it the same as you would for a drum-head. Take a one or two quart measure, wooden, and stretch the skin on tight while green. In fact, make a drum-head of it. One measure will make both. Put the wire through the center of your drum-head, and fasten to a wooden button, and you will have a telephone that will work half a mile. E. A. ROBINSON.

Exeter, Maine, April 8, 1885.

No doubt, friend R., a telephone as described above would work as well as any in the market. The first telephone we used was much like the one you have described, and I believe it gave about as good results as any we have had since.

DRY FECES, AGAIN.

I have just received from Dr. C. C. Miller some long, cylindrical, dark-colored masses, some bent, some straight, and some constricted so as to appear bead-like. The accompanying drawings represent the bent and constricted ones, and are magnified five times. These are undoubted feces, and must have been quite solid when extruded, as they have kept their form entirely, have not stained the place where they fell, and, as Mr. M. writes, were some of them stiff enough to stand out unbent from the place they were dropped.

BEE-FECES.

They break up at once when put on a glass slide with water, as do all bee-feces when dry; do not melt with heat, are not dissolved in alcohol and ether; and as they break up in water they are found to be composed wholly or almost wholly of pollen grains. In some I found quite a number of hairs and other fibers.

As stated in my address at Cincinnati on this subject (see *A. B. J.*, 1882, p. 626), fecal matter in bees is semi-solid. Of course, the liquid may be less on occasion, as we find in all animals. I have never seen such solid fecal pellets from bees as these before, but am not surprised that they may exist. In all animals, the fecal excreta varies much at times in its consistency.

This is not the "dry feces" so much talked of in our papers. That is the matter dropped by bees in their winter quiet; and, as shown in the article just mentioned, is wax and other matter kneaded by the bees by use of their jaws, and dropped as pellets to the bottom of the hive. A. J. COOK.

Agricultural College, Mich.

TWO OR MORE EGGS IN A CELL.

I have seen along in the bee-papers, that a queen always lays but one egg in a cell, but that a worker will lay more eggs than one in a cell; and also that a laying worker is developed only in the absence of a queen. To-day I was overhauling my bees, and I was astonished to see about a dozen cells contiguous that had three eggs each, mostly sticking to the sides near the bottom; and yet within three or four inches of these cells was a fine queen moving about as usual over the comb and among the bees.

Baltimore, Md., May 20, 1885. C. GARWOOD.

One egg in a cell is the rule, friend G.; but, as is usual with bees, there are a good many exceptions. Where a vigorous queen has but a small cluster of bees, she will often go around and lay eggs in the same cells over again, for want of some better employment, and in that case it indicates nothing wrong. Give her a couple of pounds of young bees to provide empty cells for her, and she will put one egg in a cell as nice as can be. A good fertile queen should, however, stick each egg in pretty nearly the center of the bottom of the cell. If they are sticking along the sides of the cell, near the bottom, as you say, it usually indicates something wrong, and the queen often does this kind of work just before she plays out entirely. Fertile workers lay great numbers of eggs in a cell — sometimes a hundred or more, and very often they stick them around the sides of the cells, on top of the combs, etc. In rare cases, however, they deposit them regularly, filling the cells as they go along. A good queen fills the cells regularly as she goes along; and where the cells are skipped here and there, we generally have pretty good reason for suspecting that it is the work of a fertile worker. If several eggs are in one cell, and none in another, the evidence is still more conclusive of a fertile worker, or a queen that does not amount to much.

SLATTED HONEY-BOARDS.

I invented and used a slatted honey-board long before I heard or read of a Heddon honey-board. I just nailed slats on to end-pieces to keep the bees from building combs between the top of brood-frames and the bottom of wide, or section frames, and it does well. Said end-pieces rest on the ends of brood-frames, and leave a bee space all around between honey-board and hive.

COMB-FRAME STAND.

One of the simple but *very* useful things in my apiary and extracting-room, that I invented and never have seen or heard of in any other apiary, is a little like a light low stand without top-board, made to hold a set of wide or brood-frames. I use two of them. D. TYRRELL, M. D.

Toulon, Ill., May 18, 1885.

LIVED IN SPITE OF BAD TREATMENT.

The first of last July I purchased 12 hives of black bees, going 20 miles for them with a spring wagon. I commenced shutting them in as soon as they were all in in the evening, which was quite a job, as the hive-maker was not a workman, nor the hives of the most approved pattern. However, I got them shut in by nine o'clock P. M.; and to hasten matters I took strips of pine and nailed over the entrance and all cracks. A few had wire cloth over the entrance. I started for home at 4 A. M., and arrived at my destination at 12 o'clock noon, of one of the hottest days the summer can boast of, all in good condition. I am satisfied that there is too much ventilation given generally.

My Italians that are now the strongest, and consumed the least amount of honey, were covered entirely out of sight with snow for about six weeks. Some I kept enameled cloth covers on over winter, and I find them all right. In cellar, I would not care how much ventilation it had, if with warm air; but I would keep the hives closed. Bees have wintered fairly, as far as I have heard, in this county.

Bethlehem, Conn., May 6, 1885. F. A. MALTBY.

Friend M., I should say that you got off remarkably well. We have all seen and read of hundreds of colonies that were entirely ruined by being shut up, apparently in the very way you closed those hives on that hot summer night. Probably the hives were so old, and had so many cracks through them, that they got sufficient air in spite of the way in which you fixed them. I should be inclined to think the colonies were not very strong, and that the hives were pretty good size. One of the first purchases I ever made was under circumstances a good deal like those you have mentioned; and although I moved them only across the town, the whole contents of the hive ran down into one heap, and the mass was almost scalding hot. My honey ran on to the

ground, and my bees were all lost, except a few that I washed off with water and dried in the sun, in a box covered with wire cloth.

HOW OUR FRIEND MRS. JENNIE CULP PREVENTS SWARMING.

In the May No. of GLEANINGS Mrs. Culp says, "As my object was honey and not increase, I prevented swarming." Now, that is just what I most want to know how to do. Will she not tell me, through GLEANINGS, just exactly *how* to do this, and perhaps thus oblige others as well as myself who are just beginning? My two swarms of Italians have wintered through nicely in chaff hives.

Fluvanna, N. Y. SARAH M. BENTLY.

We forwarded the above to Mrs. Culp for an answer, and below is her reply:

My method to prevent swarming is to keep queen-cells pinched off, and give them plenty of working room. This can be done by tiering up, if you have the right kind of hive with movable frames, or by taking frames of brood from brood-chamber, and use them to build up weak colonies, then by giving them room. This the sister can not do if she has only two colonies. JENNIE CULP.

Hilliard, Ohio.

MAKING SUGAR SYRUP WITHOUT BOILING.

I will decide with you as to making feed. I see that some think they can't make it without boiling. I will say, that that is all a notion. I have not had much experience in bee culture, but I fed about 4 gallons of syrup last fall, and I never boiled it, and it has not crystallized a bit. I think I can make it every time so it won't, and without boiling.

GEORGE M. GARNY.

Carver, Plymouth Co., Mass., May, 1885.

CALIFORNIA AND HER CAPABILITIES.

THAT 10,570 LBS. COMB HONEY FROM 18 STARVING COLONIES.

I SUPPOSE all the distinguished bee-keepers in the world, except myself, were at New Orleans. I should have liked to be there too, but that was impossible. I see by the papers that the large honey reports for last year, from this State, were doubted; or, rather, that many thought there must be some mistake. This is nothing more nor less than pronouncing them fraudulent. Now I am going to show you that *one* of the reports was true—true to the letter—except that it was not big enough.

Let me digress here, friend Root, to say that I do not believe that we yet half understand the capabilities of a swarm of bees, in tiptop condition, and floods of honey literally flowing down the mountains, as it did last year! I believe the time will come—and it may not be far away—when 1000 lbs. of honey may be got from a single colony and its progeny, in a single season. Lunatic, eh? Well, there is one consolation anyhow. The Stockton asylum is full, and they have not commenced the new one yet, and so they won't take me for a while. But, to return.

In proof of the above, there were two of our hives which gave us but about two section boxes—say 28 lbs., of honey. What their descendants did (if they had any) is more than I can say. These two hives never swarmed that we knew of; and they made only about 28 or 30 lbs. of honey each. Now throw off the odd 70 lbs. for this, and you will find the average for each hive that *did* swarm was 656¼ lbs. I do not wonder that bee-keepers are astonished, nor do I wonder that they doubt it. But because it never *was* done before, is no valid reason that it can not be done. You are old enough, and I am old enough to remember the time when, if we had gone round telling people that the time would come when we could talk to our friends 500 miles away, we would both have been locked up as lunatics! Here it is, you see. Men make a high-water mark, as it were, in their own minds. On this side of that mark lies the possible; but beyond lies the impossible. But they often have to move the mark a little more beyond. So it is in this case. You will have to move the mark, gentlemen, a little more beyond. Some of these 16 hives gave much more than others, so I must come to the conclusion that some of the old hives and their progeny gave as high as 800 lbs. of honey. Push the mark a little further on, gentlemen. Who will say, knowing the past and looking into the future, that no hive of bees and their progeny will ever make 1000 lbs. of honey in a single season?

And these are the dilatory, short-snouted, lazy Italians. They sleep too late in the morning; in fact, don't get up till after breakfast. They go to bed before sundown, and can't snatch it from red clover. Do they need some brown German blood in them? What *do* they need?

Now, dear friend Root, I want you to stand by us in our trouble, and tell us what to do. Reading over the advertisements in the bee-papers, we find that we have not got the right kind of bees at all. We have not got "the bees for business." *They* get up, and scratch gravel before daylight. They can fly faster, dive deeper, claw out and carry away more honey, than forty Italians. They never go to bed at all—no, never wink an eye. *They* have the *brown* German blood in them. Shall we get *them?*

Now let us go back to the honey crop. Below is the certificate of Messrs. Hamilton & Co., that they received in store from us 141 cases comb honey, averaging 56 lbs. to the case, which is equal to 7896 lbs.; now add 5½ cases here, 56 lbs., 308 lbs.; 68 hives containing 60 lbs. honey in brood-chamber, 4080 lbs.; 1 ton of section boxes, which was unsalable because the outer end was not sealed up. They are now on the hives again to be sealed up, 2000 lbs. Total, 14,284 lbs. Now deduct amount produced by the lower apiary, say 3480 lbs. Product of the home apiary, 10,804 lbs.

Now besides this we sent two cases to the Light-House, and one case to a lady friend in Los Angeles; these, making 168 lbs. more, were never counted. Also some 10 to 15 gallons of strained honey, which came from broken comb and crooked honey, that was likewise never counted. Gentlemen may stand aghast, and wonder what is coming next. But I produce the certificate of receipt in store. I produce the certificate of the men who hauled the honey to town. I produce the evidence of my nephew, who helped to handle the honey, and who is familiar with every move and motion from the beginning to the end.

Now, gentlemen, go back to New Orleans and put your wise heads together, and resolve that there "*must* be some mistake about it." While you are

doing that, I will try to hunt up some more honey—that has been overlooked.

You will see, friend Root, that I am some 238 lbs. ahead of my former calculation. This is occasioned by overlooking some cases that were below in the honey-house—left by the teamsters, and forgotten when I made up my statement. If any man, of any standing in bee culture, will assert publicly, through GLEANINGS, that he does not believe the statement of the parties below, I will spend ten dollars to get their affidavits, with certificate of Clerk of Court, etc. But this is not now a question merely personal to me. It stands on a broader basis. The query of all bee-keepers will be, "*Can* a swarm of bees, under *any* circumstances, make 656 lbs. of comb honey? If so, what are the conditions that are necessary to produce this result? If it is true, that you can get twice the amount of extracted honey that you can of comb, then this result is equal to 1300 lbs. of extracted honey. What an enormous amount to come from one swarm in one season!"

Looking at the little fellows walking round on the alighting-board, in the dusk of the evening, who would ever dream of it? But, watch them in the middle of the day; get down on your knees, having something dark for a background. A tree will do, or a hill. If you have no hill, purchase one immediately. They are a good thing to have about a farm—if there are not too many of them. Now look at the great stream of the little fellows—as far away as the eye can distinguish them; they are trying to lower themselves down easy, so as not to too strike suddenly on the board; and sometimes, in their haste and hurry, one of them does bump down pretty hard, turning a summersault or two over the others as they rush in and out of the hive. Do you think that bee is going to let all the rest laugh at him? Not much. He just gathers himself up, turns to the audience and lookers-on, and says, "Ladies and gentlemen, it is a self-evident fact, that I did that on purpose." Here he puts his thumb to his nose, twirls his fingers, and winks at them with one eye, and darts into the hive, in as big a hurry as if he had lost an hour.

Yes, but do not forget, before you get off your knees, to thank God, in your heart, that he has given you this simple little insect to teach you wisdom, industry, perseverance, and the love of home.

CERTIFICATE.

I hereby certify, that I have been familiar with the home apiary of 18 hives spoken of in the foregoing calculations. These 18 hives gave all the honey claimed; indeed, I think my uncle has underestimated the amount of unfinished honey kept over and now put on the hives again. I think there is nearer a ton and a half than a ton. There was at least 60 lbs. of honey in each of 68 hives in the fall, and probably more. There are also 5½ cases of honey here on hand that never was hauled into town, equal to 308 lbs. R. L. ISRAEL.

We hereby certify, that we hauled into town, and delivered to Messrs. Hamilton & Co., the following number of cases of comb honey for Israel Bros.:

1 load of		33 cases	
1	"	34	"
1	"	38	"
1	"	36	" —141.

Each case will net at least 56 lbs. We are each familiar with what the other hauled, as the wagons always went together. We know that this honey was all produced by them.

Apr. 15, 1885. I. S. MINTER.

We hereby certify that we have received one hundred and forty-one cases of comb honey, of the crop of 1884, from Israel Bros., for which they hold our receipts. These cases will net about 56 lbs. each, making 7896 lbs. We are familiar with their business, and know they bought no honey.

San Diego, Cal., April 20, 1885. HAMILTON & CO.

I have already taken up too much of your time, or I would tell you exactly how this result was reached. I have already told you of the stimulative feeding, which, of course, was only the beginning of the treatment. If you care to know exactly *how* it was done, I may give it to you at some future time.

And now in conclusion, friend Root, as I am the sole inventor of the method of getting 656 lbs. of comb honey from one colony and its progeny, in a single season, I want a "moral patent"—I want it immediately. If you are the "feller" that issues them, please send it right away, done up with red tape, blue ribbons, and a big splotch of red sealing wax. J. P. ISRAEL.

San Dieguito, San Diego Co., Cal.

Friend I., you do not need any moral patent at all. In fact, you do not need any help from anybody. You are a "whole team" without any help. But I think you are in error in saying that anybody accused you California folks of fraud. There was some misstatement made at the convention, I forget what it was, that was evidently a slip of the pen, but it was in regard to the general result of all the bees kept in California. Your statement has never been questioned, that I know of. Perhaps some of the friends may not remember where your report was given. They will find it on page 738, GLEANINGS for Nov. 1, 1884. I do not think your certificates were needed at all; but as you sent them in your letter, we have put them in. Do not by any means talk of spending money for affidavits. Bee-keepers are, as a rule, men who are not given to false statements or extravagance.

SOME VALUABLE HINTS TO BEE-KEEPERS.

HAVING AN ESTABLISHED PRICE ON YOUR HONEY, AND HOLDING TO IT.

I RECEIVED a nucleus of Italians, 3-frame, from G. W. Gates, Bartlett, Tenn., on the 15th of May, which came in tiptop order, and I can say that I am well pleased, as they are as fine bees as I ever saw. To those that are about to put together Simplicity hives, let me say when you open a crate select one side board; set it up edgewise, and pick out side and end boards to match, of same width. Number them, also the rest; this will enable you to make a good job, as they will vary as much as ¼ of an inch in width. I have found this out by actual experience.

To make it easy to manipulate wide frames, grease them where they touch each other, with mutton tallow; the wedges and the sections should be treated the same way. To separate wide frames, and loosen sections from separators, a good long screw-driver is the best tool that I ever got hold of.

About developing a home market, remember that it is a good deal what you make it. If you take your honey to town, selling what you can for 25, then 20, and finally taking 15 for the bulk, you will find it difficult to keep a fixed paying price for it. The way I made a honey market, and kept a fixed price when I lived in Missouri was this: I exhibited comb and extracted honey at our county fair, and

took a premium as long as I exhibited. I took it, ribbons and all, to one groceryman, and said, "If you will sell this honey for 25 cents per lb. I will agree to sell you all that I raise at 20c. per lb.; and if it does not sell I will take it back." Produce nice honey; keep your extracted honey until fall; put it up in Mason's fruit-jars, and just bring it in about as fast as he needs it. It is poor policy to force a market; just take a note how business men do in establishing a trade in towns: they simply, as a general rule, let one firm handle their goods. By the above plan I never failed to get 20c. per lb. net for extracted honey. Consumers would often say that they could get honey cheaper from large cities; but as they knew what they were getting, they did not object to the price. Also, do you know when you put your honey in those narrow $4\frac{1}{4} \times 4\frac{1}{4}$ sections that hold only 12 ounces, the producer getting pay for actual weight only, that you are robbing the consumer out of 4 ounces, or are the means, at least. Now for proof: You all can see what honey is worth in Kansas City, Mo. Now, a grocery dealer here sent to Kansas City for some comb section honey: it cost him 20c. per lb.; that is, each section was counted 1 lb. to him. He sold it for 25c. per section. They weighed only 12 oz. each. When I asked him he said they called it 1 lb., so he sold it by the section. Now, the commission men got the most benefit out of this honey, as they made 100 per cent, as you can easily count up. That is one reason they tell you that dealers prefer a light section under 1 lb. H. F. HAGEN.

Ellinwood, ∞ Kansas, May 15, 1885.

Friend H., you suggestions are excellent in regard to putting up Simplicity hives. We try to have our lumber thoroughly seasoned before the hives are made; but every mechanic knows that, after lumber is dressed and cut up into small pieces, it will shrink considerably more; and the worst feature of this shrinking is, that the pieces shrink unequally. Your idea of selecting those of a width for each hive, before you commence nailing them up, is excellent. Another thing: If you can not find pieces exactly of a width—that is, suppose the end is a little narrower than the side to which it is to be nailed, be sure to let the side piece project equally beyond the end piece at both top and bottom. You need not argue with me about this matter, because I am old in these things. If you put them together so they are even at the top or even at the bottom, when you come to pile your hives up the crack left will be twice as wide as if the space were divided. Worse yet, if two hives having large spaces happen to come together it would make a space large enough to let bees out. By dividing the space as I have told you, there will be scarcely a possibility of any such mishap. These small openings in the Simplicity hive will do no harm, but, in fact, are a benefit, because no other provision for ventilation is made.—Your ideas in regard to keeping a uniform price on your honey are excellent. There are many articles of merchandise on which the manufacturer is absolutely obliged to control the retail price, to save his business. The new Ivory soap, for instance, that is advertised so extensively, the manufacturers sell to every dealer at a fixed uniform price. If he takes a certain number of boxes, it is laid down at his door, freight paid. To prevent cutting under, and rivalry, every order must go through the hands of the nearest wholesale grocer. The soap goes in one fixed regular channel from the factory to the consumer, and there are no deviations. The plan you suggest in regard to it is the thing exactly.

SOME QUESTIONS FROM CALIFORNIA.

MAKING BEES WORK DOWN AS WELL AS UP, ETC.

I WANT to ask you a little about transferring some of my bees into my new Flory hive. Mr. Flory says I can set the old swarm on top of my new hive, and the queen will work down better than they will up. Now, I fail to find much about that in your A B C book. If I can transfer my bees by setting my new boxes under the old ones, that will save me lots of trouble; and if you will give me your advice on the matter, I shall be much obliged.

CHAFF HIVES IN CALIFORNIA.

What do you think about the chaff hive in California? Do you think it would pay out here? And how about something to lay on top of my frames, to keep the bees warm? Out here, people do not use any thing to cover the bees but just the top board, and I think they would do much better if they were kept warm; that is the reason our bees are so backward about swarming out here. Our bees have been working a long time, and they do not swarm out much, yet I have two swarms from 33 stands of bees, and my neighbor Hobler has only four or five swarms this season, yet he has got his from Italian bees. Mine are blacks.

HIVES WITH FRAMES OF DIFFERENT SIZES.

The way my hives are, I can not take a frame out of my old hive and set it in my new swarm, because they will not fit; that is a drawback to me this season. If I can get them all in one kind of a box, it will be more plain work.

ALFALFA.

We have a big alfalfa crop out here this season. Last season was a poor one for them, but it has got to be a big business now in California as well as other parts of the world. M. J. TWINING.

Hanford, Cal., May 12, 1885.

Friend T., as a rule bees seem to prefer working up rather than down, although when crowded for room they will often fill an empty hive placed under the old one. If Mr. Flory has tried it, and finds that it works successfully, I should try one or two that way. In my opinion, however, they will have to be crowded more to get them to take the new hive than if you would put the new hive on top. Either mode is, however, rather behind the times.—You can not do any thing very well until you get your apiary in such shape that any frame will go into any hive.—In regard to chaff hives in California, the matter would have to be determined by actual experiment. If you have cool nights, so cool, in fact, that it drives the bees out of the surplus boxes, then chaff hives would be a great advantage at such times, and I think they would be an advantage during your hottest weather in protecting the bees from the direct rays of the sun.

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, O.

TERMS: $1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, JUNE 1, 1885.

But foolish and unlearned questions avoid, knowing that they do gender strifes.—II. TIM. 2: 23.

OPERA-GLASSES FOR BEE-HUNTING.

WE have ceased to keep the $3.00 opera-glass, because the $5.00 one proves to be so much better in quality of lenses, and workmanship of the whole instrument.

PRICES LOWER.

WE have been enabled to reduce the price of so many commodities that perhaps it will pay you to have a new price list if you have not had one during the past thirty days.

THE MARBLE MONUMENT IN NEW ORLEANS TO THE MEMORY OF MARGARET.

FRIEND D. M. MCKENZIE informs us that the marble statue to the memory of Margaret, mentioned in Our Neighbors for April 15, is the only monument in America, to the memory of a *woman*.

THE A B C OF CARP CULTURE.

THE delay on this work was caused by a dilatory engraver, and by the sickness of Mr. Peirce, the author. Of course, no one is to blame for being sick, and I did not intend to blame any one but myself, in the editorial comment on this subject last month. The worst part of it is, the book has not even *yet* put in an appearance.

BUSINESS JUNE 1.

WE are all up with orders, and have been for almost a month past; in fact, you can have almost any thing you want by return mail, freight, or express. In some respects it is a pleasant way to do business; but I fear that many of the supply-dealers will have a pretty dull time unless they keep close to shore during the coming fall and winter.

OUR CARP-POND.

OUR thanks are due to friend Kaler for some beautiful specimens of German carp. They came to hand bright and lively, and are now enjoying themselves in our carp-pond with perhaps 130 or 140 more, in size from an inch to one foot or more in length. We have not been able to make them take their food yet. Perhaps the reason is, there is so much rubbish in the way of water-plants, soft mud, etc., that they have not yet had time to come down to a diet of bread and water.

CALLING THINGS BY THEIR RIGHT NAMES.

Is it any wonder that our clerks make mistakes sometimes in filling orders, when people will persist in using odd terms for what they want? Here is a specimen card:

Will you send me the book and the price of the tin hinges for the slats in the bees' boxes? Please send me a list of all about the bee-gum. JNO. L. SNODGRASS.
Reed's Mill, Jeff. Co., Ohio, April 7, 1885.

Now, if anybody can tell us what friend S. means by "tinned hinges for the slats in the bees' boxes," we should like to have him stand up and enlighten us. We sent friend S. a prospectus of the A B C book, and a price list.

WHICH EXTREME SHALL WE CHOOSE—"TOO MANY EGGS IN ONE BASKET," OR "TOO MANY IRONS IN THE FIRE"?

QUITE a discussion has come up, and seems bound to come up, in regard to which is the better of two extremes—choosing a specialty for your occupation in life, or having a variety. It does not seem to me, dear friends, that there is any need of wasting a great amount of words over the matter. Where one goes too far to one of the extremes, his friends are in duty bound to urge strongly the merits of the other course, and this is true in any other thing as well as business. Some men are disposed to fall into ruts, and get so deep into their ruts that they can not see what is going on outside of their rut. Others are so prone to have so many irons in the fire that they need constant admonishing in regard to their besetting sin — the sin of scattering one's powers to so great an extent that he excels in nothing. In regard to the way GLEANINGS is managed, the preference of *by far* the greater part of its readers is, that it shall notice, to a reasonable extent of course, the new things that come up in kindred rural industries; that is, where one objects to taking up such a thing as carp culture, at least a dozen say, "Let us know about it;" and when something else comes up that farmers, professional men, and even merchants, who like to get out outdoors, are likely to get interested in, tell us about it. To satisfy the minority, it may be that it would be well if the reading on the cover should be changed to "Devoted to bees and honey, and other rural industries;" but it seems to me GLEANINGS may look over the fence occasionally, even if we don't put this in its head.

SENDING QUEENS BY MAIL FROM CALIFORNIA IN FEBRUARY.

I OMITTED to mention, at the proper time, that friend Norton did send us a queen, lively and in good order, all the way from Gonzales, Cal., during the month of February. The queen and bees were carefully packed with woolen cloth, so as to enable the cluster to keep the inside of the little cage warm, in spite of frost without. Accident may have favored the transit somewhat, perhaps, although a good deal is due to careful preparation. Now, friend N., if you can send queens safely to the States in February, why can't you supply the good people west of the Rocky Mountains with good queens all summer long? By getting an imported queen to breed from, you can furnish just as good stock as we do, and it is a great piece of folly for the friends in California to send clear here for queens by mail. May be there is something in the fact that we always have queens on our table, ready to go back by first mail; but, bless your hearts, can't some of the other brothers and sisters take advantage of this splendid means of advertising, as well as A. I. Root? What ever ails you, friends?

SENDING QUEENS PROMPTLY.

Just one little illustration of the trouble it makes by being behindhand on so simple a thing as a queen. A few days ago the orders were too numerous for us. One friend had to wait several days for an untested queen. We could not tell him just when it would be sent, because we did not know

how fast the brethren who were raising them for us down South were getting along. Well, even during those few days of delay he wrote us that he had traveled *thirty miles* in going to the postoffice and back again after his queen. He expected us to send the queen right straight back, as we always had done heretofore.

HEDDON'S HONEY-BOARD MADE FOR SIMPLICITY HIVES.

I AM sorry to say, that, through some unaccountable blunder, 300 or 400 of these have been sent out, having only 9 spaces instead of 10. It is true, you can use only 9 frames in a Simplicity hive, and some prefer to do so; but where we are working for comb honey, I would by all means have the combs trimmed so they will come down to the regular orthodox number of 10 combs for an L. hive. If the friends who have received these nine-space honey-boards will write us, we will try to make the matter satisfactory. They can easily be made right by drawing the nails and putting in an extra slat; or they can be used with 9 combs; or even if used as they are for 10 combs, I suppose there will not be much trouble by bees building up through them.

BEESWAX.

FOR the present, the best we would dare offer for good average beeswax is 24 cts. cash, or 28 cts. trade. This to take the place of the offer on the cover of this number.

WE are this 28th day of May notified that the ABC of Carp Culture has been shipped us from the publisher.

WE have to-day, May 28, 6465 subscribers.

CIRCULARS RECEIVED.

Arthur Todd, Philadelphia, Pa., sends us a nice 8-page price list of bees, hives, honey, etc., GLEANINGS size.

M. C. Von Dorn, Omaha, Neb., sends us a neat 6-page price list of standard apiarian supplies.

James O. Facey, Tavistock, Ontario, Canada, has issued a 4-page price list of queens and apiarian supplies.

C. Weeks, Clifton, Tenn., sends out a postal price list of Italian queens.

Andrew Durward, Merrimac, Wis., sends us card price list of honey, hives, and bees.

T. S. Hall, Kirby's Creek, Ala., sends us a very nice 24-page price list of Italian bees and apiarian supplies.

Henry E. Fitz, Lynn, Mass., sends us an 8-page price list relative to the Champion bee-hive.

G. W. Putnam, Holland, Iowa, sends us a 4-page list of apiarian supplies.

A. M. Gander, Adrian, Mich., sends us an 8-page list of bee-keepers' supplies.

W. Ballantine, Sago, O., sends us a 16-page price list of queens and apiarian supplies.

CONVENTION NOTICES.

The Bee-keepers' Association of Central Illinois will meet at Bloomington on July 15th, at 10 o'clock A. M. WM. B. LAWRENCE, Sec.
Bloomington, Ill., April 30, 1885.

The Southern Ill. Bee-keepers' Convention will be held in DuQuoin, in Esq. Reed's office, on Wednesday, June 10, 1885, at 10 A.M. A cordial invitation is given to all who are interested in bees.
W. LITTLE, Pres. F. H. KENNEDY, Sec.

GLEANINGS AS AN ADVERTISING MEDIUM.

The notice, "Bees for Sale," you gave free in GLEANINGS, brought in one week more customers than I had bees. Thanks. E. BURKE.
Vincennes, Ind., May 18, 1885.

I think GLEANINGS is a splendid medium to advertise through, as I have sold every swarm I have. Will you please say to the bee-keeping fraternity that I have no more bees for sale? J. R. REED.
Milford, Wis., May 23, 1885.

1885. PLEASANT VALLEY APIARY. 1885.

PURE BRED

ITALIAN AND ALBINO QUEENS.

Untested, after June 1st..... $1 00
" " " " per ½ dozen..... 5 00
Tested progeny, three-banded..... 2 00
" Selected, young, large and light-colored 3 00
Full colonies in Langstroth or Simplicity hives 8 00
Nuclei (no queens), 2-frame, $2.25; 3-frame.... 3 00
Celebrated poplar sections, per M. (*sample mailed free*)..... 5 50

All orders filled promptly, and safe arrival and satisfaction guaranteed. Full colonies have tested queens; nucleus colonies (add the price of queen). The above strains are bred in separate apiaries, home containing over 70 full colonies, all pure Italians. My strains have stood the *test of hardiness;* have always wintered on summer stands, and have not lost a colony in the past 4 winters. Sample of my large, handsome, light-colored workers sent for 10 cents. Address 9d

E. L. WESCOTT, Fair Haven, Rutland Co., Vt.

THE KIND OF BEES YOU NEED.

IF you want bees for *business*, get those that will work on red clover. Not a colony of this strain lost in wintering since they originated. Circular free. F. BOOMHOWER,
11tfdb Gallupville, Schoharie Co., N. Y.

BEES FOR SALE.

HYBRIDS AND BLACKS, strong colonies, on 9 wired L. frames, delivered on Miss. River boat at $4.00 per colony. H. B. SHAW,
11-12-13d Gum Ridge, Jeff. Co., Miss.

FOR SALE.

I will sell a limited number of 3-frame nuclei with dollar queens, bred from good stock, during the month of June, for $3.75 each. Size of frame, 10x14 inches. I shall aim to give satisfaction. White to postmaster at Stanley for reference. Make money-orders payable at Bluffton, Ohio. Address
11 JACOB GUISINGER, STANLEY, PUTNAM CO., OHIO.

BEES FOR SALE.

Italians in brood-chamber, L. hive..... $7 00
Hybrids..... 6 00
One pound Italians..... 1 00
One pound hybrids..... 75
Safe arrival guaranteed.
TOM PHELPS,
11d Sonora, Hardin Co., Ky.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column.

FOR SALE!

I WILL sell my apiary, consisting of 50 stands of Italians, honey-house, 20 acres of land, good for garden or fruit-growing, bog-raising, or cotton. For further particulars, address
ISAAC GUTTON, WACO, McLENNAN CO., TEX.

FOUNDATION MACHINES,

$3.50, any size. Molded fdn., 40 to 50 cts. per pound. Italian queens in their purity, from the South, and of my own raising, untested, $1.00; tefted, $2.00.
11d JOHN FARIS, TOWN HOUSE, SMYTH CO., VA.

THE UNDERSIGNED offers for sale very cheap a quantity of improved movable-comb hives, adapted to either outdoor or cellar wintering. For further particulars, address
11tfdb ADIN A. SMITH, MOHAWK, HERK. CO., N. Y.

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is often times quite an accommodation to those who can not afford higher-priced ones.

QUEENS FOR SALE.—Hybrid queens, 50 cts. each; black queens, 25c each, from June 1 to Oct. 1. Safe arrival guaranteed. R. H. BAILEY,
7-11db P. O. Box 81. Ausable Forks, Essex Co., N. Y.

A few hybrid queens for 50 cents in June. Black queens, as long as we can buy Black swarms, for 30c. Also a limited number of tested Italians for $1.25, 2d class. We will ship all in the Safe cage, and guarantee safe arrival only. After tested queens are out, will fill orders with untested.
S. A. DYKE & CO., Pomeroy, O.

I can spare a limited number of hybrid queens the coming summer, reared from best imported and select tested Italian queens. By return mail, in the Peet shipping-cage. Safe arrival guaranteed for 50c each. Address
JOHN A. THORNTON, Lima, Adams Co., Ill.

I am superseding a lot of good hybrid queens, which I will ship to any one for 50c each; safe arrival guaranteed. It is a pity to kill them.
J. W. WINDER, Carrollton, New Orleans, La.

I have now for sale 20 hybrid queens at 40c each. Safe arrival guaranteed.
J. H. JOHNSON, Middaghs, Northam. Co., Pa.

We have about 30 hybrid queens to dispose of; will take 50 cts. each, or in lots of five, 40c each.
JOHN NEBEL & SON, High Hill, Mont. Co., Mo.

I have a few good hybrid queens for sale at 50 cts. each; also a few blacks at 25 cts. Ready now.
FRANK A. EATON, Bluffton, Ohio.

I have 20 hybrid queens that are daughters of an imported mother, that I wish to sell at 50c each.
J. F. MCCORD, Covington, Newton Co., Ga.

WYANDOTTE EGGS

Price reduced (for June only), $1.75 for 13 eggs; $3.00 for 26. The eggs hatch well. Mr. T. J. Young, of Austin, Ark., reports 20 chicks hatched from 26 eggs that I sent April 10.

PURE ITALIAN QUEENS sent for $2.00 each. Every thing guaranteed to arrive safely. Circulars free. **J. C. BOWMAN,**
11d **North Lima, Mahoning Co., O.**

I HAVE a few dollar queens ready now. Untested, $1.00; Warranted, $1.25 each. Also 6 tested queens, $2.00. L. HEINE, BELLMORE, QUEENS CO., N. Y.

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL. See advertisement in another column. 3btfd

The North-Shade Apiary

Full colonies in either the Langstroth or the Gallup hives, for May delivery. Nuclei, Queens, and bees by the pound, for the season. *Price List Free.*
8-9tfd O. H. TOWNSEND, ALAMO, KAL. CO., MICH.

QUEENS! QUEENS!!

Untested Italian Queens, raised from pure mothers, $1.00. Tested, $1.75. I will guarantee satisfaction. Address **A. R. JOHNSON,**
10tfdb **Elizabethtown, Bladen Co., N. C.**

Bees Wanted to Fill Empty Hives.

Who will sell *first swarms* cheapest, ship before June 18th, and guarantee safe arrival? 11d

J. G. LEHDE, Gardenville, Erie Co., N. Y.

JOB LOT OF WIRE CLOTH

AT GREATLY REDUCED PRICES.

Such a brisk demand has sprung up for this, and our customers seem to be so much pleased with the goods, we have succeeded in getting another still larger lot, of one of the largest manufacturers of wire cloth in the world. Please bear in mind that the only way in which we can afford to sell it at the very low price of 1½ cts. per sq. ft. is by selling the entire piece just as it is put up. We have now in stock the following pieces. As fast as it is sold, each piece is crossed out, and the next issue will show what remains.

Inches Wide.	No. of Rolls.	SOME OF THE USES TO WHICH THIS WIRE CLOTH CAN BE APPLIED. This wire cloth is first quality in every respect, and is just the thing for covering doors and windows, to keep out flies; for covering bee-hives and cages for shipping bees; making sieves for sifting seeds, etc. Number of Square Feet contained in each Roll Respectively.
8	4	2 rolls of 57 s. f.
10	3	3 rolls of 75, 72, 70 s. f.
11	2	2 rolls, 80, 65 s. f.
12	3	3 rolls, 100 s. f. each.
16	2	2 rolls of 133 s. f. each.
20	4	4 rolls of 166 s. f.
22	6	3 rolls of 181, 1 of 169, 1 180, 1 of 250 s. f.
24	18	8 rolls of 200, 1 of 180, 3 of 120, 1 of 100, 1 of 144 s. f.
26	74	24 rolls of 217, 15 of 216, 1 of 108, 3 of 106, 5 of 108, 1 of 195, 1 of 156, 2 of 215, 1 of 210 s. f.
28	68	28 rolls of 233, 5 of 234, 3 of 186, 1 of 117 s. f.
30	25	3 rolls of 250, 1 of 325, and 1 of 95 s. f.
32	10	2 rolls of 266, 1 of 133 s. f.
34	14	7 rolls of 281, 1 each of 240, 85, 255, 365, and 240 s. f.
36	12	1 roll of 300, 1 of 216 s. f.
38	42	28 rolls of 316, 3 of 285, 2 of 317, 1 each of 140, 632, 158 and 215 s. f.
40	4	1 roll of 131 s. f.
42	3	1 roll of 105, 1 of 245 s. f.
44	2	1 roll of 366, 1 of 348 s. f.
46	1	1 roll of 152 s. f.
48	12	11 rolls of 400, 1 of 200 s. f.

A. I. ROOT, Medina, Ohio.

AFTER 15 YEARS

Of very careful breeding, A. Snyder has produced a strain of bees known as

Snyder's Sweet-Clover Bees,

And has this day entered into partnership with a gentleman of "Means and ability." We now for the first time offer bees for sale. We are prepared to fill all orders for full colonies, nuclei, and queens. We shall breed pure Italians, they being best.

Untested queens, each	$1 00
Reared by natural swarming, each	1 50
Tested queens, each	2 00
Reared by natural swarming, each	3 00
Extra selected, of 1884, each	5 00

Mr. Tripp being a professional poultry fancier, we offer eggs for sale at $2.00 per 13, $3.50 for 26, from each of the following breeds:

LIGHT BRAHMAS, PLYMOUTH ROCKS, WHITE LEGHORNS, BROWN LEGHORNS.

Having sweet-clover fields of our own (white variety), we offer seed for 16 cts. per lb. A small package sent with each queen ordered. Address

SNYDER & TRIPP,
Clarksville, Albany Co., N. Y.

$1.25 PER POUND

For bees until June 20. The same for untested queens to go with bees. Safe arrival guaranteed.

16—T. P. ANDREWS, 210.
11d **Farina, ♀ Fayette Co., Ill.**

WANTED.

ORDERS FOR BEST FOUNDATION.

I use the Given press; have dies for making sheets of foundation, Langstroth size, or 11x14. Can make 11x12. Wax worked for 10c per lb. Also sections, crates, etc., at low rates. I also have a few second-hand L. hives for sale cheap. Send for prices to

JOHN H. MARTIN,
11-12d HARTFORD, WASH. CO., NEW YORK.

Established 1855.

HEADQUARTERS

BEESWAX

We have constantly on hand a large stock of Domestic, Imported, and Refined **Beeswax** in original shape, which we offer to manufacturers of Comb Foundation at lowest prices. Write to us for prices, stating quantity wanted. Address

R. ECKERMANN & WILL,
Beeswax Bleachers & Refiners. SYRACUSE, N. Y.

N. B.—We have low freight rates to all points on quantities. 24-11db

MISSOURI.

THE ONLY MANUFACTURERS IN MISSOURI, of Apiarian Implements. Send for Circular and Price List of our Hive with the **Reversible** Surplus arrangement for comb honey. Also **Smokers, Comb Foundation, Italian Queens, etc. KENNEDY & LEAHY,**
P. O. Box 11. HIGGINSVILLE,
5tfdb Lafayette Co., Mo.

THE SUCCESS
FOUNDATION ✣ FASTENER.

"Takes the cake; the fastening is a complete job, as I never saw it before. *Chas. F. Muth, Cin., O.*"
Correspondence with supply dealers solicited.
Circulars free. **GIWITS & SON,**
9-11-13-15-17d **West Jersey, Illinois.**

IMPORTED QUEENS.

In April,	- - - - -	11 francs in gold.
May and June,	- - - - -	10 " " "
July and August,	- - - -	9 " " "
September and October,	- -	7 " " "

No order received for less than 8 queens. Queens which die in transit will be replaced only if sent back in a letter. CHARLES BIANCONCINI & CO.,
3-13d Bologna, Italy.

BEE-KEEPERS' SUPPLIES,
BEE-BOOKS, & LE CONTE PEAR-TREES
FOR SALE.

One pear-tree sent postpaid for 40 cents.
2tfd *T. A. GUNN, Tullahoma, Tenn.*

BEE-KEEPERS' SUPPLIES

MANUFACTURERS OF

ONE-PIECE SECTIONS,

Made from Basswood.

HIVES OF ALL KINDS,

FOUNDATION, SMOKERS, ETC.

Send for Price List to 23tfd

Smith & Goodell, Successors to **Derr & Harris.**

ROCK FALLS, WHITESIDE CO., ILL.

$65. **CIRCULARS FREE.** I will advise every reader of this advertisement to write at once for one of the above circulars. No man can afford to be without it. **Pure B. L. Eggs, $1 per 15. D. E. BEST, Best's, Pa.** 11-13d

GOLDEN ITALIAN QUEENS.

Bees beautiful, gentle, and great honey-gatherers. Queens large and prolific; untested queens after May, $1.00; tested, $2.00. Extra tested to breed from, $3.50. Send for circular to 9-10-11-12d
DARROW & ROSS, LEBANON, ST. CLAIR CO., ILL

SOMETHING NEW.

As I have greatly increased my facilities for manufacturing

Apiary Supplies,

It will be to your advantage to send for price list before purchasing elsewhere. Cash paid for beeswax. **A. B. HOWE,**
2tfdb **Council Bluffs, Iowa.**

OLD TYPE FOR SALE.

We have still on hand 76 lbs. of our old nonpareil type for sale. For a sample of it, see any number of GLEANINGS previous to May 15, 1884. Also 17 lbs. of Italic, if desired. As it is all packed, we can not divide either lot. The Roman includes 5 lbs. and over of "logotypes;" that is, the words *the, and, that, ing, tion,* etc., are made all on one body, thus facilitating composition. We offer the lot at 20 cts. per lb. A. I. ROOT, Medina, Ohio.

Manufactures a

FIRST-CLASS ARTICLE FOR 15 AND 22c PER LB.

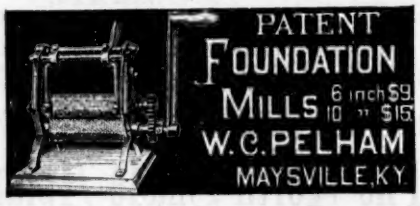
WRITE FOR PARTICULARS. 8-9-11d

TAR-HEEL APIARIES.

1884 No. Ca. Queens. *Carniolans. Italians.* ABBOT L. SWINSON, *Proprietor,* Goldsboro, Wayne Co., N. C. No. Ca. Queens. *Cyprians. Syrians.* 1884

PRICE OF LAYING ITALIANS	May	June	July to Oct.
Untested queens, each.....	$1 00	$1 00	$1 00
" " ½ doz.....	6 00	5 00	5 00
Best tested queens, each...	3 00	2 50	2 00
" " " ½ doz...	15 00	12 00	11 00

The other races, one-fourth more. For nuclei, add 75 cts. for each L. frame of bees and brood to price of queen. Pure wax foundation, 50 cts. per lb.; 50 lbs. and over, 48 cts. 7-9-11d



ONE-PIECE SECTIONS A SPECIALTY.

We make five styles and all sizes, and keep other supplies. Sample hundred, 50 cts. Sample and circular free. Orders filled promptly. Five per cent off on orders until further notice.
7tfd B. WALKER & CO., CAPAC, ST. CLAIR CO., MICH.

FROM CHOICE IMPORTED QUEENS

I will, after June 21, furnish untested queens from my choice imported queen-mother, for $1.00 each. Nucleus with queen, $3.00.
9tfdb J. L. HYDE, POMFRET LANDING, CONN.

New Maple Sugar.

A limited supply, and some of it very nice. Prices, 8, 9, 10, and 11 c. per lb., according to quality. One cent less, if ordered in lots of 100 lbs. or more.
A. I. ROOT, Medina, O.

JOB LOT OF WIRE CLOTH

AT GREATLY REDUCED PRICES.

Such a brisk demand has sprung up for this, and our customers seem to be so much pleased with the goods, we have succeeded in getting another still larger lot, of one of the largest manufacturers of wire cloth in the world. Please bear in mind that the only way in which we can afford to sell it at the very low price of 1½ cts. per sq. ft. is by selling the entire piece just as it is put up. We have now in stock the following pieces. As fast as it is sold, each piece is crossed out, and the next issue will show what remains.

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22	4	3 rolls of 181, 1 of 169 s. f.
24	10	6 rolls of 200, 2 of 180, 1 of 100, and 1 of 120 s. f.
26	47	24 rolls of 217, 39 of 216, 4 of 108, 2 of 195, 1 of 156, 2 of 151, 2 of 215, 1 of 210, and 1 of 151 s. f.
28	30	22 rolls of 233, 2 of 234, 4 of 181, 1 of 106, and 1 of 97 s. f.
32	2	2 rolls of 266, s. f.
34	8	6 rolls of 281, 1 of 235, and 1 of 85 s. f.
36	3	1 roll of 237, 1 of 93, and 1 of 106 s. f.
38	37	28 rolls of 316, 3 of 285, 2 of 317, 1 each of 190, 632, 178, 126, and 215 s. f.
40	1	1 roll of 139 s. f.
42	2	1 roll of 105, 1 of 245 s. f.
44	2	1 roll of 366, 1 of 348 s. f.
46	1	1 roll of 152 s. f.
48	12	11 rolls of 400, 1 of 200 s. f.

A. I. ROOT, Medina, Ohio.

FULL POUND OF BEES, WITH WARRANTED ITALIAN QUEEN, $2.50. Guarantee safe arrival. JOHN C. STEWART, Hopkins, Nodaway Co., Mo.

FROM June 15 to July 15th we will sell **ITALIAN BEES** at $1.00 per pound; untested Italian queens at $1.00 each. DIXON & DILLON,
12 Parrish, Franklin Co., Illinois.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column.

1885 ITALIAN QUEENS 1885

Untested Queens in March and April..... $1 25
Afterward..... 1 00

J. S. TADLOCK,
5tfdb LULING, CALDWELL CO., TEXAS.

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

I have a few very fine black queens; price 25 cts. each. W. P. DAVIS, Goodman, Anson Co., N. C.

I have a few hybrid queens, which I will take 50c each for. Ready now.
F. C. STEVENS, Moore's Hill, Dearborn Co., Ind.

I can spare about one dozen hybrid queens at 50c each, and 2 black queens at 25c each. Safe arrival guaranteed.
ELIAS COLE, Ashley, Delaware Co., Ohio.

I have 25 hybrid queens that I will sell for 50 cts. each. D. N. MACKEY, Dry Creek, Lan. Co., S. C.

I have a few choice hybrid queens which I will sell at 50c each. Untested Italians at $1.00. Safe arrival guaranteed.
G. S. FOX, Mitchellville, Polk Co., Iowa.

I have 20 hybrid queens one year old. I will take 40 cents each for them.
A. E. KIRKMAN, Maple Cypress, Craven Co., N. C.

EXCHANGE DEPARTMENT.

Notices will be inserted under this head at one-half our usual rates. All ad's intended for this department must not exceed 5 lines, and you must SAY you want your ad. in this department, or we will not be responsible for any error.

WANTED.—To exchange eggs from single and rose comb Brown Leghorns, Plymouth Rocks, Light Brahmas, and Pekin ducks, for warranted Italian queens—any number up to 20 fowls, and as fine as any in the U. S. Write at once.
12-13d JAMES CRAIG, Mt. Meridian, Augusta Co., Va.

WANTED.—To exchange 2 knitting-machines (one Lamb, one Kimbell) bee-hives that have been used some; 50c and $1.00 apiece, F. O. B., for beeswax, or offers foundation, 44 to 50c per lb., for cash or wax; wax worked on press on shares or for cash. A. J. NORRIS,
11-12d Cedar Falls, Black Hawk Co., Iowa.

WANTED.—To exchange any quantity of pure Brown Leghorn eggs for Italian queens and bees. HENRY C. SILVER,
Huntington, Huntington Co., Ind.

WANTED.—To exchange one ¼-size camera complete, with a partial photo outfit, and one good barber chair, for bees in L. or S. hives, or for empty hives and combs, foundation, or extractor.
ELIAS FOX, Hillsborough, Vernon Co., Wis.

WANTED.—To exchange a good Novelty printing-press, hand or foot power, chase 5x7, type-cases, 8 fonts type, brass rule, dashes, quads, spaces, leads, electro of queen, furniture, ink, etc., for a Barnes circular-saw machine, or a 10-inch fdn. mill.
M. W. SHEPHERD, Rochester, Lorain Co., O.

WANTED.—To exchange Italian queens for beeswax, fdn. mill, chaff hives, or offers. Will furnish untested queens at $1.00 each; six for $5.00. Warranted queens, $1.25 each; six for $6.25. Will allow 27c per pound for good yellow beeswax, delivered here. Circular free.
J. P. MOORE, Morgan, Pendleton Co., Ky.

WANTED.—To exchange a printing-press with type and furniture, size of chase 4⅞x6⅞, for bees by the pound, with untested Italian queens.
G. R. JOHNSON, Bartonsville, Wind. Co., Vt.

WANTED.—To sell, or exchange for bees, one 8x10 camera-box and 4x4 tube, complete, as good as new.
F. SHILLING, Jewett, Harrison Co., Ohio.

WANTED.—To exchange hives made up or in the flat, for bees, queens, and new honey. Send for price list free. J. R. LINDLEY,
Georgetown, Ver. Co., Ill.

WANTED.—To exchange a 4000-lb. honey-vat, well made, and one of A. T. Andrews' writing-desks, for one-piece sections or Italian queens. Vat is worth $35.00; desk worth $20.00.
H. O. MCELHANY, Vinton, Benton Co., Iowa.

WANTED.—To exchange foundation for bees by the pound. Write
JOHN BIRD, Bradford, Chickasaw Co., Iowa.

FOUNDATION MACHINES,

$3.50, any size. Molded fdn., 40 to 50 cts. per pound. Italian queens in their purity, from the South, and of my own raising, untested, $1.00; tested, $2.00.
12-13-14d JOHN FARIS, TOWN HOUSE, SMYTH CO., VA.

FOR SALE. **One of the Best Located Apiaries in the State of Iowa.** 58 Colonies of ITALIAN BEES in *Splendid Condition:* just ready to commence swarming (June 6). SPLENDID BEE-PASTURAGE. *Dandelions, White Clover, Red Clover, Basswood, and Goldenrod.* Handsome new frame house, **20 Acres of Land,** 6 good milch cows, flag station, P. O. and store, 20 rods from the house. *Immediate possession given if desired.* **Price $2500,** which includes 100 NEW HIVES all ready for bees, and 6000 SECTIONS with foundation, ready for surplus honey.

C. A. SAYRE.
12-13tfd **Sargent, Floyd Co., Iowa.**

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Ezra Baer, Dixon, Lee Co., Ill.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa.; E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky.; Clark Johnson & Son, Covington, Ky., King, Aspinwall & Co., 16 Thomas St., New York City, C. A. Graves, Birmingham, O.; M. J. Dickason, Hiawatha, Kan.; J. W. Porter, Charlottesville, Albemarle Co., Va.; E. R. Newcomb, Pleasant Valley, Dutchess Co., N. Y., and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd **Hamilton, Hancock Co., Illinois.**

THE CANADIAN BEE JOURNAL.

WEEKLY, $1.00 PER YEAR.

D. A. Jones & Co., Publishers, Beeton, Ont., Can.

The only bee journal printed in Canada, and containing much valuable and interesting matter each week from the pens of leading Canadian and United States bee keepers. Sample copy sent free on receipt of address. Printed on nice toned paper, and in a nice shape for binding, making in one year a volume of 832 pages. 9tfb

$1.00 Discount.

I will offer, for the next 30 days, Novice honey-extractors for Langstroth frames, $6.00; for American frames, 6.00; usual price $7.00. Send all orders to GEO. W. BAKER, MILTON, WAYNE CO., IND. 12-13d

I HAVE THEM. Pure Italian Queens, raised from the choicest stock, ready to mail now. Untested queens, $1.00. Tested queens, 2.00. Send me your order, and send for my circular of queens and bees. J. P. CONNELL.
9 2dtb Hillsboro, Hill Co., Texas.

FULL ITALIAN COLONY OF BEES,
$7.00 PER COLONY;

Two L. frames of bees and brood with queen, $2.00.
J. E. HUNTINGTON,
Cotton Hill, Fayette Co., West Va.

I WILL SELL

Chaff hives all complete, with lower frames, for $2.50; in flat, $1.50; 2-story Simplicity, complete, $1.25; in flat, 90c.

Comb Foundation, made from pure refined wax, 45c per lb. for heavy; 55 for light. Other supplies. Send for price list. A. F. STAUFFER,
7-12db Sterling, Whiteside Co., Ill.

THE KIND OF BEES YOU NEED.

IF you want bees for *business*, get those that will work on red clover. Not a colony of this strain lost in wintering since they originated. Circular free. **F. BOOMHOWER,**
11tfdb **Galupville, Schoharie Co., N. Y.**

BEES FOR SALE.

HYBRIDS AND BLACKS, strong colonies, on 9 wired L. frames, delivered on Miss. River boat at $4.00 per colony. **H. B. SHAW,**
11-12-13d **Gum Ridge, Jeff. Co., Miss.**

MISSOURI.

THE ONLY MANUFACTURERS IN MISSOURI, of Apiarian Implements. Send for Circular and Price List of our Hive with the **Reversible** Surplus arrangement for comb honey. Also **Smokers, Comb Foundation, Italian Queens, etc. KENNEDY & LEAHY,**
P. O. Box 11. HIGGINSVILLE,
5tfdb Lafayette Co., Mo.

POWERFUL COLONIES OF BEES

IN 10-FRAME SIMPLICITY HIVES,

For Only $10. Try One.

READY TO SHIP AT ONCE.

E. F. BUSICK. - CHURCH CREEK, - DORCHESTER CO., MD.

SOMETHING NEW.

As I have greatly increased my facilities for manufacturing

Apiary Supplies,

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Bees beautiful, gentle, and great honey-gatherers. Queens large and prolific; untested queens after May, $1.00; tested, $2.00. Extra tested to breed from, $3.50. Send for circular to 9-10-11-12d
DARROW & ROSS, LEBANON, ST. CLAIR CO., ILL

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL. See advertisement in another column. 3btfd

The North-Shade Apiary

Full colonies in either the Langstroth or the Gallup hives. Prices just reduced. Nuclei, Queens, and bees by the pound, for the season. *Price List Free.*
8-9tfd O. H. TOWNSEND, ALAMO, KAL. CO., MICH.

QUEENS! QUEENS!!

Untested Italian Queens, raised from pure mothers, $1.00. Tested, $1.75. Three-frame nuclei (Simplicity frame) with untested, $2.75. Safe arrival and satisfaction guaranteed.
Address **A. B. JOHNSON,**
10tfdb **Elizabethtown, Bladen Co., N. C.**

WANTED.

ORDERS FOR BEST FOUNDATION.

I use the Given press; have dies for making sheets of foundation, Langstroth size, or 11x14. Can make 11x12. Wax worked for 10c per lb. Also sections, crates, etc., at low rates. I also have a few second-hand L. hives for sale cheap. Send for prices to **JOHN H. MARTIN,**
11-12d HARTFORD, WASH. CO., NEW YORK.

THE UNDERSIGNED offers for sale very cheap a quantity of improved movable-comb hives, adapted to either outdoor or cellar wintering. For further particulars, address
11tfdb ADIN A. SMITH, MOHAWK, HERK. CO., N. Y.

PRICES REDUCED.

Comb foundation, equal to any in the market, at reduced prices. Send for samples and price list.

J. G. WHITTEN,
6tfdb **Genoa, Cayuga Co., N. Y.**

Dunham & Vandervort Foundation

We have bought a large stock of choice yellow beeswax, and can furnish Dunham comb fdn. for brood comb, cut to any size, for 45c per lb.; thin and bright yellow fdn., for sections, at 50c per lb. Extra thin Vandervort fdn., 10 to 12 sq. feet to the lb., for 55c per lb. We guarantee our fdn. to be made of pure beeswax, and not to sag. Will work up wax for 10c per lb. for brood, and 15 and 20c per lb. for sections. Send for prices for 25 lbs. or more.

F. W. HOLMES,
5tfdb Coopersville, Ottawa Co., Mich.

IF YOU WANT

A GOOD ONE-PIECE SECTION *CHEAP*

Send to us. Sample and Price List Free.

SMITH & SMITH, KENTON, HARDIN CO., OHIO
2tfdb

BINGHAM SMOKERS AND KNIVES.

BY MAIL, POSTPAID.

Doctor smoker (wide shield)	3½ inch	$2 00
Conqueror smoker (wide shield)	3 "	1 75
Large smoker (wide shield)	2½ "	1 50
Extra smoker (wide shield)	2 "	1 25
Plain smoker	2 "	1 00
Little Wonder smoker	1¾ "	65
Bingham & Hetherington Honey-Knife, 2-inch		1 15

To sell again, apply for dozen or half-dozen rates. Address

BINGHAM & HETHERINGTON, ABRONIA, MICH.
10tfdb

W. Z. HUTCHINSON,

ROGERSVILLE, GENESEE CO., MICH.,

Can furnish just as neat, white, smooth, and perfect dovetailed white-poplar sections as there are made. Send for sample and prices. Untested Italian queens, $1.00 each. Tested queens, $2.00 each. Make money orders payable at Flint. 9tfdb

BEES BY THE POUND.

24 Colonies to draw from.

1 pound .....$1.00 | 3 pounds for.....$2 50

Nucleus queens cheap. Safe arrival guaranteed. Will exchange for foundation at market prices.

W. R. WHITMAN,
11-12d Nashville, Davidson Co., Tenn.

VANDERVORT
COMB FOUNDATION MILLS.

Send for samples and reduced price list.
2tfdb JNO. VANDERVORT, Laceyville, Pa.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

ITALIAN QUEENS,

$1.00; $10.00 per dozen; tested, $2.00. Safe arrival guaranteed. Circular free.

J. M. KILLOUGH & CO.,
10tfdb. **San Marcos, Hays Co., Tex.**

SECTIONS.

Western headquarters for bee-men's supplies. Four-piece sections, and hives of every kind, a specialty. Flory's corner-clamps, etc. Orders for sections and clamps filled in a few hours' notice. Send for sample and prices.

M. R. MADARY,
9 20db **Box 172. Fresno City, Cal.**

Bee-Hives AND Sections!

NEW SHOP AND NEW MACHINERY.

The Largest Manufactory of Bee-Hives, Sections, etc., in the World.

Our Capacity now is a Carload of Goods Daily.

NOTICE.

By enlarging our factory last year we were put behind with our work so that by spring we were obliged to return many orders. *Now* we have ample stock ahead, and can fill orders promptly.

Write for our new price list for 1885.

G. B. LEWIS & CO.,
19tfdb **WATERTOWN, WISCONSIN.**

BEECH'S QUEENS

Warranted Italian queens, from Imported mother May 1st, $1.00; $10.00 per doz. Choice select tested queens, $3.50. I guarantee safe arrival and satisfaction. *G. A. BEECH,*
7-12db *Box 24. Quitman, Nodaway Co., Mo.*

BEESWAX.

Made into Given foundation on shares or for cash, on favorable terms. Best machinery, experienced hands. Western bee-keepers, please take notice; save freight or delay, and secure an article as good as any for all purposes. **JOHN BIRD,**
7-12db Bradford, Chickasaw Co., Iowa.

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To send a postal card for our illustrated catalogue

APIARIAN SUPPLIES Before purchasing elsewhere. It contains illustrations and descriptions of every thing new and desirable in an apiary,

AT THE LOWEST PRICES.

ITALIAN QUEENS AND BEES.

J. C. SAYLES,
1-12db **Hartford, Washington Co., Wis.**

VIBRATING TELEPHONE.

Patent Applied for.

Gives splendid satisfaction. No exorbitant rental fee to pay—sold outright and *guaranted* to work nicely on lines within its compass (2 miles), or money refunded. **THE COST** for private lines **IS LESS** than **TWO MONTHS' RENTAL FEE** to the expensive **BELL TELEPHONE. THE VIBRATING TELEPHONE** is *the only* **PRACTICAL** *and* **RELIABLE** non-electric Telephone made, and warranted to give satisfaction, *or money refunded.* Agents can make immense profits erecting lines and get all the work they can do. Territory *given* Agents in which they are *protected* No previous experience required, as illustrated instructions show all about erecting lines. Where I have no agents. Telephones may be ordered direct for private use. Circulars and price list free Mention this paper.

H. T. JOHNSON, 102 S Division St., Buffalo, N. Y. 6-17db

HONEY COLUMN.

CITY MARKETS.

ST. LOUIS.—*Honey.*—Our honey market is very dull. No demand for any kind. Parties prefer strawberries for table use. *Beeswax* continues to gradually decline; hard to sell, and looks as if it would go lower; stock large. Last sales at 24c.

W. T. ANDERSON & CO.,
June 8, 1885. 104 N. Third St., St. Louis, Mo.

CLEVELAND.—*Honey.*—The market for honey has been very dull the past month, scarcely any thing doing, and stocks on hand standing still; what few sales are made are at former prices, 14@15 for best 1-lb. sections of white; second quality does not sell. Extracted not wanted. *Beeswax*, 25@28.

June 10, 1885. A. C. KENDEL,
115 Ontario St., Cleveland, Ohio.

CHICAGO.—*Honey.*—There is at present very little demand for honey (this may be owing to cheapness of small fruits of all kinds). Sales are made at 10@12½c per pound; extracted, 5@7c. *Beeswax.*—22@28.

June 10, 1885. R. A. BURNETT,
161 So. Water St., Chicago, Ill.

NEW YORK.—*Honey.*—Since our last quotations there is no change in the honey market, still very dull. *Beeswax*, we quote at from 29½@31½c.

May 27, 1885. MCCAUL & HILDRETH BROS.,
34 Hudson Street, corner Duane St., New York.

MILWAUKEE.—*Honey.*—The honey market is very dull—very little demand for comb honey. In 1-lb. sections, values nominal, 12½@13c. Extracted in pails, 8c. *Beeswax.*—Some demand, 30@35c. Values easy. A. V. BISHOP,

May 25, 1885. 142 West Water St., Milwaukee, Wis.

KANSAS CITY.—*Honey.*—Demand light, and prices weak. We quote choice ½-lb. sections 15@16c; 1-lb., 13@14; 2-lb., 10@11c. Extracted, 5@7c., according to quality. We need some ½-lb. sections, and shall be pleased to hear from parties having any. *Beeswax.*—25@30c.

June 4, 1885. CLEMONS, CLOON & CO.,
Cor. Fourth & Walnut Sts., Kansas City, Mo.

CINCINNATI.—*Honey.*—There is no new feature in the market. Arrivals are plentiful, and at low figures, with almost no demand, excepting from our regular customers. Low prices are no inducement. Extracted honey ranges from 4½@8c on arrival. Prices of comb honey are nominal, with a slow retail trade. *Beeswax.*—We find beeswax in a better retail and jobbing demand than ever, with good arrivals. Prices range from 22@27c on arrival.

CHAS. F. MUTH,
S. E. Cor. Freeman and Central Avenues,
June 11, 1885. Cincinnati, Ohio.

DETROIT.—*Honey.*—The market is very dull; a good article is quoted at 10@11 cents.

June 9, 1885. A. B. WEED,
Detroit, Mich.

THE A B C OF

CARP CULTURE

JUST ISSUED.

A COMPLETE TREATISE

In Regard to the German Food Carp,

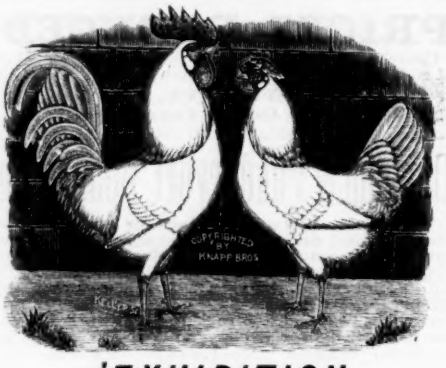
INCLUDING PLANS AND SPECIFICATIONS, AND FULLEST INSTRUCTIONS FOR THE CONSTRUCTION OF PONDS, AND EVERY THING PERTAINING TO THE BUSINESS OF RAISING CARP FOR FOOD.

Illustrated by Many Fine Engravings.

Written by MILTON E. PEIRCE.

PRICE 35 CTS.; BY MAIL, 40 CTS.

A. I. ROOT, MEDINA, OHIO.



EXHIBITION

WHITE LEGHORNS

BRED BY

KNAPP BROS.,

FABIUS, - NEW YORK.

Our Strain of this Variety Win Highest Honors Everywhere.

LOOK! At MADISON SQUARE GARDEN, New York City, where the largest and grandest exhibition of poultry to be seen in America is annually held, our birds won in 1884, 1st, 2d and 3d Prizes on Breeding-Pens, 2d on Chicks, the Specials and Silver Cup for Best display; at State and County Fairs every first prize offered. Again in February, 1885, at the great New York Show, our birds were awarded FIRST PREMIUM MERIT on ALL entries, including Club's Special First Prize for Best Pair Chicks, for Best Breeding-Pen (averaging 95¼, highest score 98), and the $20 Special offered for Largest and Best Display in Leghorn Class, Brown or White, with 26 breeding-pens and 38 pairs in competition.

No better laying variety exists; all acknowledge this. Send and get the best breeding stock to be found in the world.

EGGS FOR HATCHING from our Prize-Winners, carefully packed in baskets, $3 per 13, $5 per 26. All orders will receive our personal attention and will give all good satisfaction.

This will not appear again. Send stamp for our 1885 circular giving further particulars, and price of fine chicks after Sept. 1. *Box 74.* 12d

QueenS.

If you are in a hurry for them, give me an order; 25 laying now; 90c each; tested, $1.50; fine stock. Can send by return mail in my improved Peet cage.

L. HEINE,
12d **Bellmore, Queens Co., N. Y.**

BEES FOR SALE.

2, 3, or 4 Frame Nuclei, $1.00 Each;
Untested Queens, $1.00;
Full Colony on L. Frame, $10.00.

Address **RICHARD EDMUNDS,**
12-16db BOX 222. GRAND CROSSING, COOK CO., ILL.

FOR SALE.

I want to sell 100 L. frames of comb, 9⅛x17⅝, over one-half worker-comb. $15.00 will buy them.
11tfdb J. W. BRADLEY, COLUMBIA, BOONE CO., MO.